



GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION  
PUDUCHERRY  
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Puducherry, dt. 12.11.2018

PRESS NOTE

The National Means-cum-Merit scholarship (NMMS) Examination for the students studying VIII standard and the National Talent Search (NTS) (First Stage) Examination for the students studying X standard launched by the Ministry of Human Resource Development, New Delhi for the year 2018-19 was conducted by the Directorate of School Education in all the four regions of U.T. of Puducherry on 04-11-2018 (Sunday) in 28 Examination Centers.

In this U.T. of Puducherry a total of 2281 students appeared for National Means-cum-Merit scholarship (NMMS) Examination and 5671 students appeared for the First stage National Talent Search (NTS) Examination.

The question booklets along with answer key are published in the website [schooledn.puducherry.gov.in](http://schooledn.puducherry.gov.in). In case of any query / objection relating to answer key it may be registered in the mail id [jd-edn.pon@nic.in](mailto:jd-edn.pon@nic.in) on or before 16-11-2018.

(M.KUPPUSAMY)

Joint Director

Kindly Publish/broadcast this news in your Newspaper/Radio/Television.



(M.KUPPUSAMY)

Joint Director



**புதுச்சேரி அரசு  
பள்ளிக்கல்வி இயக்ககம்**  
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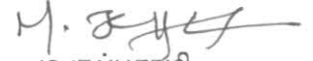
புதுச்சேரி. 12.11.2018

**செய்திக்குறிப்பு**

புதுடில்லியில் உள்ள மனிதவள மேம்பாட்டு அமைச்சகம் 2018-2019 கல்வி ஆண்டிற்கான தேசிய வருவாய் வழி மற்றும் திறன் படிப்பதவித் தொகைத் தேர்வு மற்றும் தேசியதிறனறித் தேர்வு (முதல் நிலை) முறையே எட்டாம் வகுப்பு மற்றும் பத்தாம் வகுப்பில் பயிலும் மாணாக்கர்களுக்கு கடந்த 04-11-2018 ஞாயிற்றுக்கிழமை புதுச்சேரி யூனியன் பிரதேசத்தின் நான்கு பகுதிகளிலும் 28 மையங்களில் புதுச்சேரி பள்ளிக் கல்வி இயக்ககத்தால் தேர்வு நடத்தப்பட்டது.

புதுச்சேரி யூனியன் பிரதேசத்தின் நான்கு பகுதிகளில் இருந்து தேசிய வருவாய் வழி மற்றும் திறன் படிப்பதவித் தொகைத் தேர்விற்கு 2281 மாணாக்கர்களும் மற்றும் தேசியதிறனறித் தேர்விற்கு (முதல் நிலை) 5671 மாணாக்கர்களும் தேர்வு எழுதினர்.

இத்தேர்வுகளுக்கான கேள்வித்தாள் மற்றும் விடை (answer key) புதுச்சேரி பள்ளிக் கல்வி இயக்கக இணையதள முகவரியான [schooledn.puducherry.gov.in](http://schooledn.puducherry.gov.in) இல் வெளியிடப்பட்டுள்ளது. விடைகளில் ஏதேனும் ஆட்சேபனை இருந்தால் வரும் 16-11-2018 க்குள் [jd-edn.pon@nic.in](mailto:jd-edn.pon@nic.in) எனும் மின்னஞ்சல் முகவரியில் பதிவு செய்யலாம் என்று அறிவிக்கப்படுகிறது.

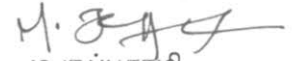


ம.குப்புசாமி

இணை இயக்குநர்

இச்செய்திக் குறிப்பினை தங்கள் நாளேட்டில்/தொலைக்காட்சியில் வெளியிட/ஒளிபரப்ப அன்புடன் கேட்டுக்கொள்கிறேன்.





ம.குப்புசாமி

இணை இயக்குநர்



1011

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**NOVEMBER 2018**

**PART – I  
MENTAL ABILITY TEST**

**Centre Code No.**

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**Register No.**

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**INSTRUCTIONS**

1. Answer all the questions. All questions carry one mark each
2. Since all questions are compulsory, do not try to read through the whole question paper before beginning to answer.
3. Begin with the first question and keep on trying one question after another till you finish all the question.
4. If you do not know the answer to any question, do not spend much time on it but pass on to the next one. Time permitting, you can come back to the questions which you have left in the first instance and try them again.
5. Since the time allotted to this question paper is very limited, you should make the best use of it by not spending too much time on any one question.
6. Separate sheets have been provided for rough work in the Question Booklet itself.
7. The answers should be marked on a separate answer sheet provided in the Examination Hall.
8. The answer sheet has two parts corresponding to Part – I and Part –II of the Test.
9. Answer to each question is to be indicated by shading the number of the correct choice in the answer sheet with black ballpoint pen from amongst the ones given for the corresponding question in the test booklet.

**PART I**  
**MENTAL ABILITY TEST – NOVEMBER 2018**

**1011**

**Duration: 2 hours**

**Max Marks:100**

**(Questions 01-05)**

**DIRECTION:** In each of the following questions, a number/alphabet series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark.

1. 13, 32, 24, 43, 35, ? 46, 65, 57, 76

(1) 45

(2) 52

(3) 54

(4) 55

2. 2, 5, 13, 31, 69, ?

(1) 111

(2) 121

(3) 128

(4) 147

3. AZY, BUT, CXW, DWV, ?

(1) EVA

(2) EVU

(3) VEU

(4) VUE

4. 2, 15, 41, 80, ?

(1) 111

(2) 120

(3) 121

(4) 132

5. AZ, CX, FU, ?

(1) IR

(2) IV

(3) JQ

(4) KP

**(Question 06-09)**

**DIRECTION:** The first pair of numbers/words bear a certain relationship. The same relationship is required to be found in the other pair in which one number/word is missing. Find that number.

6. 54 : 9 :: 102 : ?

(1) 14

(2) 15

(3) 17

(4) 16

7. 18 : 30 :: 36 : ?

(1) 54

(2) 62

(3) 64

(4) 66

8. 123 : 14 :: 234 : ?

(1) 25

(2) 29

(3) 15

(4) 28

9. South : North-West :: West : ?

(1) South-West

(2) East

(3) North-East

(4) South

**(Question 10-13)**

**DIRECTION :** In each of the following questions some letters are missing. The missing letters are in a sequence as one of the alternatives among the four given under each question. Find out the correct alternative.

10. ab\_\_aa\_\_bbb\_\_aaa\_\_bbba

(1) abba

(2) baab

(3) aaab

(4) abab

11. \_ baa \_ aab \_ a \_ a

- (1) aabb (2) aaba (3) abab (4) baab

12. b \_ abbc \_ bbca \_ bcabb \_ ab

- (1) acaa (2) bbac (3) acba (4) cabc

13. b \_ b \_ bb \_ \_ bbb \_ bb \_ b

- (1) bbbba (2) abbaba (3) ababab (4) bbaaab

**(Questions 14-18)**

**DIRECTION:** In each of the following questions the actual alphabets are replaced by certain other alphabets/numbers according to some rule to form its code. Identify the rule and find the correct code.

14. If the word **PORTER** can be coded as **MBNZQN**, how can **REPORT** be written?

- (1) NQMNBZ (2) NQMBNZ (3) NBQMNZ (4) NQBMNZ

15. If **FULFNHW** is the code for **CRICKET**, then **EULGH** is the code for which word?

- (1) PRIDE (2) BRIDE (3) BLADE (4) BLIND

16. In a certain code **NATURE** is written as **MASQUE**. How is **FAMINE** written in that code?

- (1) FBKJND (2) FZMHND (3) GANIOE (4) EALIME

17. If **PALAM** can be written as 43, then what code can be given to **SANTACRUZ**?

- (1) 75 (2) 85 (3) 120 (4) 123

18. In a certain code, **COMPUTER** is written as **RFUVQNPC**. How is **MEDICINE** written in the same code?

- (1) EOJDJEFM (2) EOJDEJFM (3) MFEJDJOE (4) MFEDJJOE

**(Qns. 19 to 22 )**

**Directions :** Column I contains five capital letters while column II contains five digits. Each letter corresponds to a single digit but not necessarily in that order.

Column-I	Column-II
BEIKL	61520
PNBTK	34568
XLPBE	57401
KNIXV	27396
XBNPE	45713

19. What is the value of **BIKE**?

- (1) 5261 (2) 6125 (3) 2560 (4) 5062

20. What is the value **PIN + NIP?**

(1) 423

(2) 744

(3) 777

(4) 747

21. What is the value of **BITE - KITE?**

(1) 386

(2) 1000

(3) -1000

(4) -386

22. What is value of **NIL + NINE -TEN?**

(1) 4364

(2) 2738

(3) 2097

(4) 2394

23. Which of the following meanings of the arithmetical signs will yield the value zero for the expression  **$200 \times 100 + 300 \times 200 - 10 \div 2 + 40$**

(1) + means  $-$ ,  $-$  means  $\times$ ,  $\times$  means  $\div$ ,  $\div$  means  $+$

(2) + means  $-$ ,  $-$  means  $\div$ ,  $\times$  means  $+$ ,  $\div$  means  $\times$

(3) + means  $\times$ ,  $-$  means  $-$ ,  $\times$  means  $\div$ ,  $\div$  means  $+$

(4) + means  $\div$ ,  $-$  means  $+$ ,  $\times$  means  $-$ ,  $\div$  means  $\times$

24. Interchange the sign and select correct answer:  **$9 + 5 \div 4 \times 3 - 6 = 12$**

(1) + and  $\times$

(2)  $\div$  and  $+$

(3)  $\div$  and  $-$

(4) + and  $-$

25. If + stands for  $\times$ ,  $-$  for  $\div$ ,  $\times$  for  $-$ , and  $\div$  for  $+$ , find the value of  **$26 + 74 - 4 \times 5 \div 2$**

(1) 220

(2) 376

(3) 478

(4) 488

26. If  $\times$  means  $-$ ,  $+$  means  $\div$ ,  $-$  means  $\times$  and  $\div$  means  $+$  then  **$15 - 2 \div 900 + 90 \times 100 = ?$**

(1) 60

(2) 180

(3) 90

(4) -60

### (Questions 27-30)

**DIRECTION:** In each of the following questions, a matrix of certain characters is given. These characters follow a certain trend row-wise or column-wise. Find out the missing characters/value.

27.

7	4	5
8	7	6
3	3	?
29	19	31

(1) 3

(2) 4

(3) 5

(4) 6

28.

3	15	4
7	38	5
3	?	5

(1) 15

(2) 18

(3) 19

(4) 20

29.

28	20	7
84	35	12
45	?	9

(1) 15

(2) 18

(3) 20

(4) 25

30.

13	12	5
17	15	8
25	24	?
29	21	20

(1) 7

(2) 9

(3) 11

(4) 15

31. Find the value of X in the following figure:

15									4
	33							2	
		27						2	
			36			8			
				32	X				
				18	9				
				22	11				
				12	3				

(1) 3

(2) 4

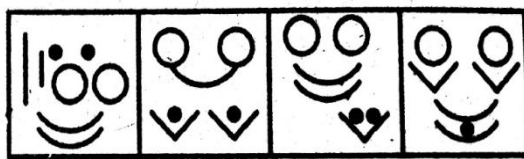
(3) 8

(4) 12

32. Find out which of the alternatives will exactly make up the key figure (X)



(X)



A

B

C

D

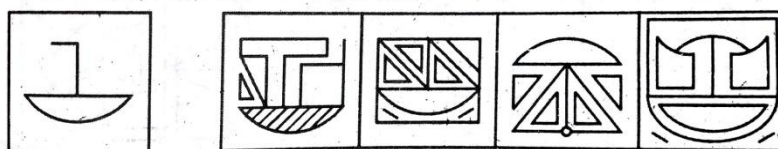
(1) A

(2) B

(3) C

(4) D

33. Trace out the alternatives figure which contains fig (X) as its part



(X)

A

B

C

D

(1) A

(2) B

(3) C

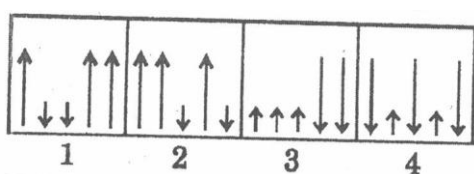
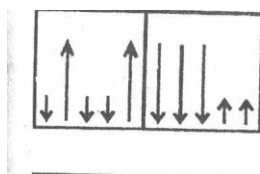
(4) D

**(Questions 34-37)**

**DIRECTION:** There are certain common characteristics/properties between the two problem figures. Select a figure from amongst the Answer figures which shows similar characteristics/properties as shown by the Problem figures.

34. PROBLEM FIGURES

ANSWER FIGURES



(1) 1

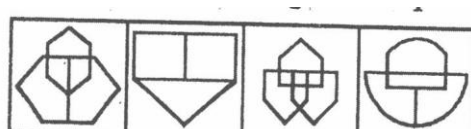
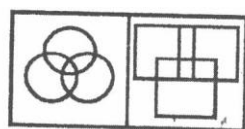
(2) 2

(3) 3

(4) 4

35. PROBLEM FIGURES

ANSWER FIGURES



(1) 1

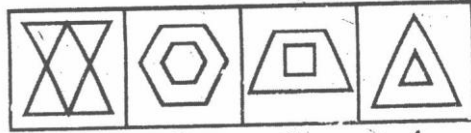
(2) 2

(3) 3

(4) 4

36. PROBLEM FIGURES

ANSWER FIGURES



(1) 1

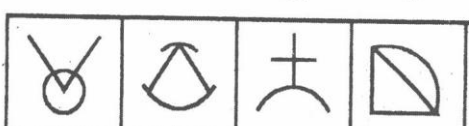
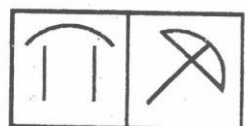
(2) 2

(3) 3

(4) 4

37. PROBLEM FIGURES

ANSWER FIGURES



(1) 1

(2) 2

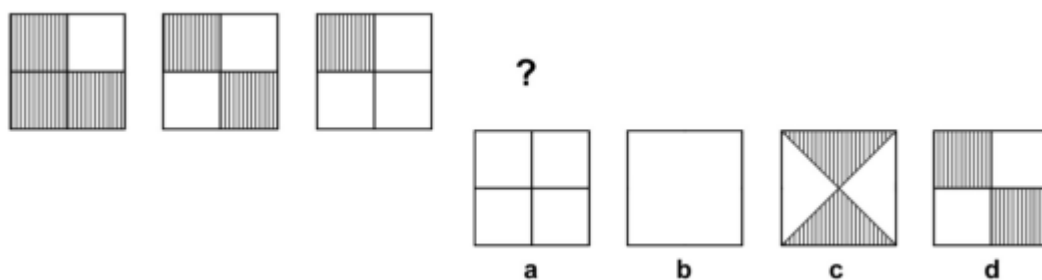
(3) 3

(4) 4

(Questions 38-42)

**DIRECTION:** Find which one of the four figures on the right should come next

38.



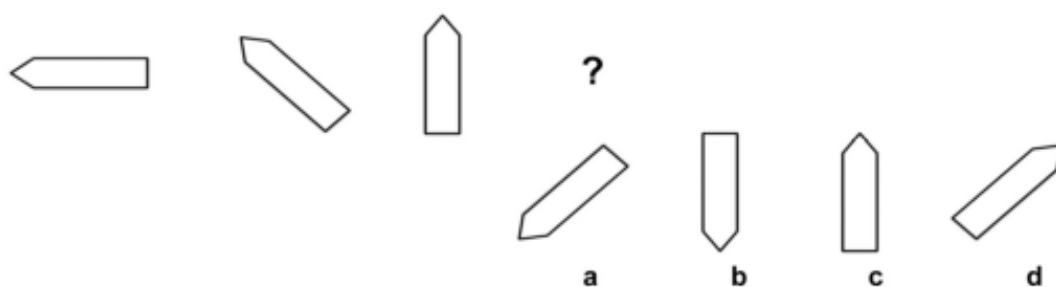
(1) a

(2) b

(3) c

(4) d

39.



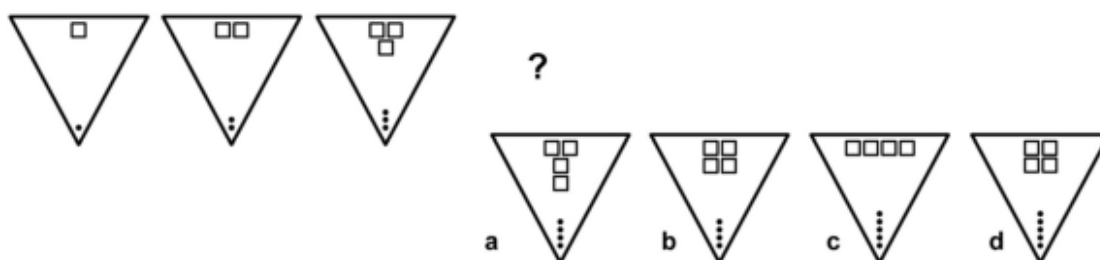
(1) a

(2) b

(3) c

(4) d

40.



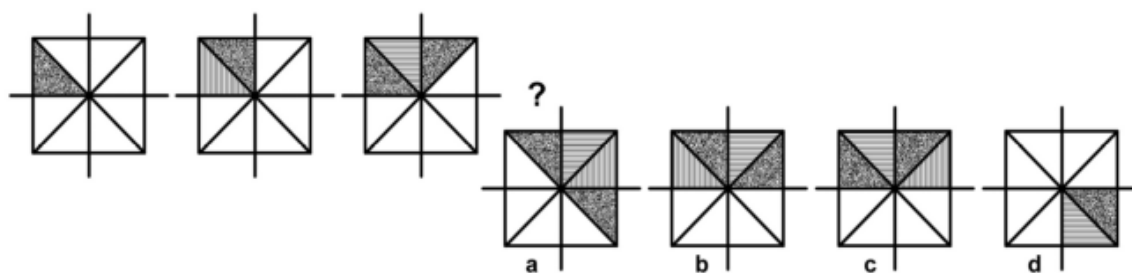
(1) a

(2) b

(3) c

(4) d

41.



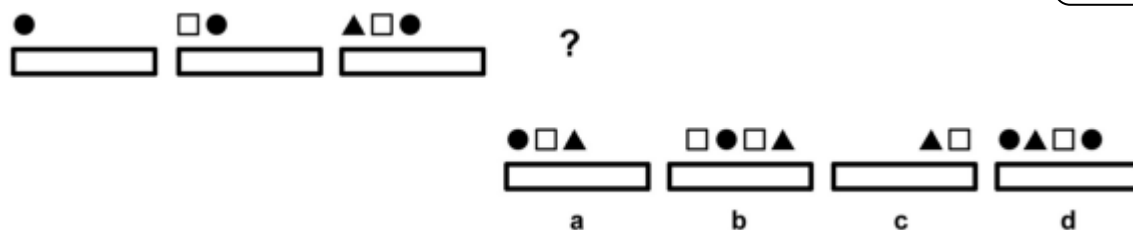
(1) a

(2) b

(3) c

(4) d

42.



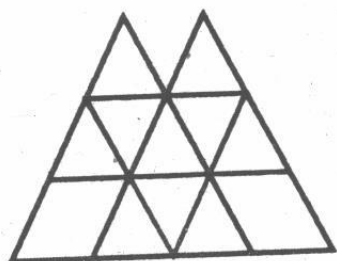
(1) a

(2) b

(3) c

(4) d

43. Count the number of parallelograms in the given figure



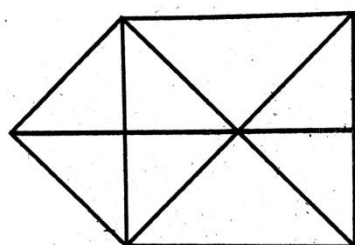
(1) 23

(2) 22

(3) 21

(4) 18

44. Count the number of triangles in the given figure



(1) 15

(2) 16

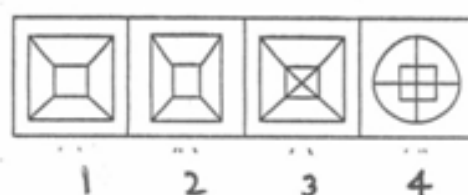
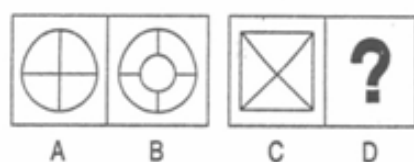
(3) 17

(4) 18

(Questions 45-47)

**DIRECTION:** There is a definite relationship between figures A and B. Establish a similar relationship between C and D by selecting a suitable figure from the answer set that would replace the question mark.

45.



(1) 1

(2) 2

(3) 3

(4) 4



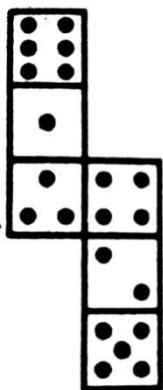
54. How many cubes are without paint on any face?

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

55. How many cubes are painted on more than two faces?

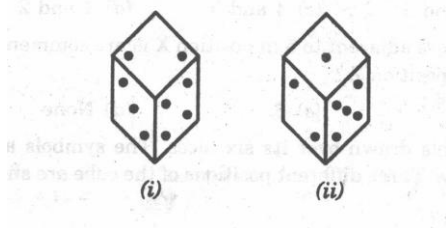
- (1) 10 (2) 8 (3) 16 (4) 12

56. How many dots lie opposite the face having three dots, when the given figure is folded to form a cube?



- (1) 2 (2) 4 (3) 5 (4) 6

57. A dice is rolled twice and the two positions are shown in the figure below. What is the number of dots at the bottom face when the dice is in position (i)?



- (1) 1 (2) 5 (3) 6 (4) cannot be determined

58. If the following series is written in the reverse order, which number will be fourth to the right of the seventh number from the left?

**7, 3, 9, 7, 0, 3, 8, 4, 6, 2, 1, 0, 5, 11, 13**

- (1) 0 (2) 5 (3) 9 (4) 11

59. How many A's are there in the following series which are immediately followed by B as well as immediately preceded by Z?

**A M B Z A N A A B Z A B A Z B A P Z A B A Z A B**

- (1) 0 (2) 1 (3) 2 (4) 3

60. How many numbers from 11 to 80 are divisible by 7 but not divisible by 3?

- (1) 2 (2) 4 (3) 5 (4) 7

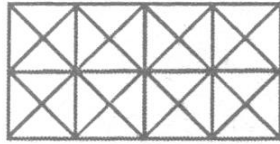
61. If the numbers from 5 to 85 which are exactly divisible by 5 are arranged in descending order, which would come at the eleventh number from the bottom ?

- (1) 35                      (2) 55                      (3) 60                      (4) 50

62. John ranks 16<sup>th</sup> from the top and 37<sup>th</sup> from the bottom in the class. Find the number is students in the class?

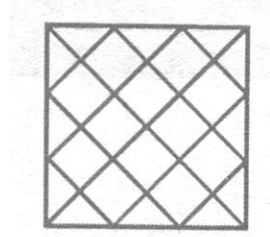
- (1) 54                      (2) 53                      (3) 43                      (4) 52

63. Count the number of squares in the following figure:



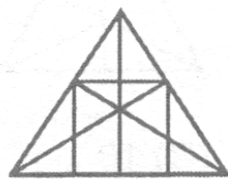
- (1) 15                      (2) 21                      (3) 24                      (4) 26

64. How many squares does the following figure have?



- (1) 17                      (2) 18                      (3) 13                      (4) 16

65. Count the number of straight lines and triangles in the following figure?



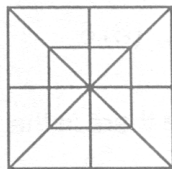
- (1) 10 straight lines and 34 triangles                      (2) 9 straight lines and 34 triangles  
(3) 9 straight lines and 36 triangles                      (4) 10 straight lines and 36 triangles

66. How many triangles and squares are there in the following figure?



- (1) 28 triangles, 5 squares                      (2) 24 triangles, 4 squares  
(3) 28 triangles, 4 squares                      (4) 24 triangles, 5 squares

67. Count the number of triangles and squares in the following figure?



(1) 28 triangles, 10 squares

(2) 28 triangles, 8 squares

(3) 32 triangles, 10 squares

(4) 32 triangles, 8 squares.

**(Questions 68-72)**

**Directions:** Read the following information carefully and answer the questions given below

A family consists of six members P, Q, R, S, T and U. There are two married couples. Q is a doctor and the father of T. U is grandfather of R and is a contractor. S is grandmother of T and is a housewife. There is one doctor, one contractor, one nurse, one housewife and two students in the family.

68. Who is the husband of P?

(1) R

(2) U

(3) Q

(4) S

69. Who is the sister of T?

(1) R

(2) U

(3) Q

(4) S

70. What is the profession of P?

(1) Doctor

(2) Nurse

(3) Housewife

(4) contractor

71. Which of the following are two married couples?

(1) US, QT

(2) US, QP

(3) TS, RU

(4) US, RP

72. Which of the following is definitely a group of male members?

(1) QU

(2) QUT

(3) QUP

(4) UT

73. E is the son of A. D is the son of B. E is married to C. C is B's daughter. How is D related to E?

(1) Brother

(2) Uncle

(3) Father-in-law

(4) Brother-in-law

74. A man said to a lady, "Your mother's husband's sister is my aunt". How is the lady related to the man?

(1) Daughter

(2) Grand daughter

(3) Mother

(4) Sister

75. I. F is the brother of A  
 III. K is the sister of F  
 Who is the uncle of G?

II. C is the daughter of A  
 IV. G is the brother of C

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

**(Questions 76-80)**

**Directions** Read the following information carefully and answer the questions given below

Six lectures A, B, C, D, E and F are to be organised in a span of seven days from Sunday to Saturday, only one lecture on each day in accordance with the following:

- i) A should not be organised on Thursday.
- ii) C should be organised immediately after F
- iii) There should be a gap of two days between E and D
- iv) One day there will be no lecture (Friday is not that day), just before that day D will be organised
- v) B should be organised on Tuesday and should not be followed by D

76. On which day there is no lecture?

- (1) Monday                      (2) Friday                      (3) Sunday                      (4) Tuesday

77. How many lectures are organised between C and D

- (1) None                      (2) One                      (3) Two                      (4) Three

78. Which day will the lecture F be organised?

- (1) Thursday                      (2) Friday                      (3) Saturday                      (4) Sunday

79. Which of the following is the last lecture in the series?

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

80. Which of the following information is not required in finding the complete sequence of organisation of lectures?

- (1) (i) only                      (2) (ii) only                      (3) (i) and (ii) only                      (4) All are required

81. How many times are the hands of a clock at right angle in a day?

- (1) 22                      (2) 24                      (3) 44                      (4) 48

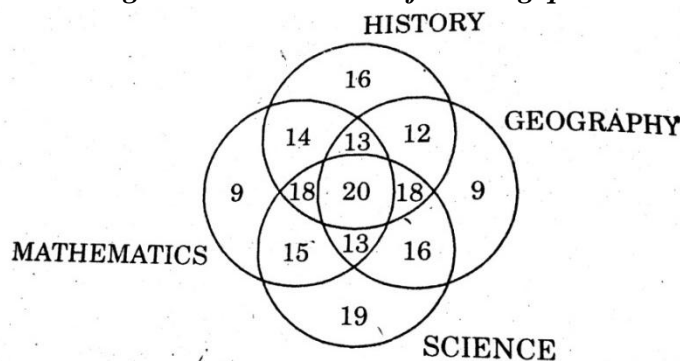
82. The calendar for the year 2018 will be the same for the year

- (1) 2026                      (2) 2027                      (3) 2028                      (4) 2029

83. It was Thursday on Nov 1, 2018. What will be the day of the week on April 1, 2019?

- (1) Monday                      (2) Wednesday                      (3) Friday                      (4) Sunday

(Questions 84- 87)

*Directions: Use the Venn diagram and answer the following questions*

84. The number of students who took any three of the above subjects was  
 (1) 62 (2) 63 (3) 64 (4) 66
85. The number of students in total who took History or Mathematics or Science, was  
 (1) 183 (2) 190 (3) 424 (4) 430
86. The number of students who took both History and Geography among other subjects was  
 (1) 62 (2) 63 (3) 65 (4) 66
87. Which subject was taken by the largest number of students?  
 (1) Mathematics (2) Science (3) Geography (4) History
88. Ashish leaves his house at 20 minutes to seven in the morning, reaches Kunal's house in 25 minutes, they finish their breakfast in another 15 minutes and leave for their office which takes another 35 minutes. At what time do they leave Kunal's house to reach their office?  
 (1) 7.40 am (2) 7.20 am (3) 7.45 am (4) 8.15 am
89. The train for Lucknow leaves every two and a half hours from New Delhi Railway Station. An announcement was made at the station that the train for Lucknow had left 40 minutes ago and the next train will leave at 18.00 hrs. At what time was the announcement made?  
 (1) 15.30 hrs (2) 17.10 hrs (3) 16.00 hrs (4) None of these
90. A monkey climbs 30 feet at the beginning of each hour and rests for a while when he slips back 20 feet before he again starts climbing in the beginning of the next hour. If he begins his ascent at 8.00 a.m., at what time will he first touch a flag at 120 feet from the ground?  
 (1) 4 p.m. (2) 5 p.m. (3) 6 p.m. (4) None of these
91. If the two incorrect watches are set at 12 : 00 noon at correct time, when will both the watches show the correct time for the first time given that the first watch gains 1 min in 1 hour and second watch loses 4 min in 2 hours :  
 (1) 6 pm, 25 days later (2) 12: 00 noon, 30 days later  
 (3) 12 noon, 15 days later (4) 6 am 5 days later

92. The ratio of the present ages of two brothers is 1 : 2 and 5 years back, the ratio was 1 : 3. What will be the ratio of their ages after 5 years?.
- (1) 1 : 4                      (2) 2 : 3                      (3) 3 : 5                      (4) 5 : 6
93. The sum of the ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
- (1) 4 years                      (2) 8 years                      (3) 10 years                      (4) 12 years
94. Ravi traveled 4 km straight towards south. He turned left and traveled 6 km straight, then turned right and traveled 4 km straight. How far is he from the starting point?
- (1) 8 km                      (2) 10 km                      (3) 12 km                      (4) 18 km
95. A man is facing North-West. He turns  $90^\circ$  in the clockwise direction, then  $180^\circ$  in the anticlockwise direction and then another  $90^\circ$  in the same direction. Which direction is he facing now?
- (1) South                      (2) South-West                      (3) West                      (4) South-East
96. In an examination, a student scores 4 marks for every correct answer and losses 1 mark for every wrong answer. If he attempts in all 60 questions and secures 130 marks, the number of questions he attempts correctly is
- (1) 35                      (2) 38                      (3) 40                      (4) 42
97. At the end of a business conference the ten people present all shake hands with each other once. How many handshakes will there be altogether?
- (1) 20                      (2) 45                      (3) 55                      (4) 90
98. How many independent words can 'HEARTLESS' be divided into without changing the order of the letters and using each letter only once?
- (1) 2                      (2) 3                      (3) 4                      (4) 5
99. A train 110 metres long is running with a speed of 60 kmph. In what time will it pass a man who is running at 6 kmph in the direction opposite to that in which the train is going?
- (1) 10 sec                      (2) 7 sec                      (3) 6 sec                      (4) 5 sec
100. A and B can do a piece of work in 72 days; B and C can do it in 120 days; A and C can do it in 90 days. In what time can A alone do it?
- (1) 80 days                      (2) 100 days                      (3) 120 days                      (4) 150 days

**FOR ROUGH WORK ONLY**

**1021**

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**NOVEMBER 2018**

**PART – II  
SCHOLASTIC APTITUDE TEST**

**Centre Code No.**

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**Register No.**

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**INSTRUCTIONS**

- (1) Answer all the questions. All questions carry one mark each
- (2) Since all questions are compulsory, do not try to read through the whole question paper before beginning to answer.
- (3) Begin with the first question and keep on trying one question after another till you finish all the question.
- (4) If you do not know the answer to any question, do not spend much time on it but pass on to the next one. Time permitting, you can come back to the questions which you have left in the first instance and try them again.
5. Since the time allotted to this question paper is very limited, you should make the best use of it by not spending too much time on any one question.
6. Separate sheets have been provided for rough work in the Question Booklet itself.
7. The answers should be marked on a separate answer sheet provided in the Examination Hall.
8. The answer sheet has two parts corresponding to Part – I and Part –II of the Test.
9. Answer to each question is to be indicated by shading the number of the correct choice in the answer sheet with black ballpoint pen from amongst the ones given for the corresponding question in the test booklet.

**PART II**  
**SCHOLASTIC APTITUDE TEST – NOVEMBER 2018**

**1021**

**Duration: 2 Hours**

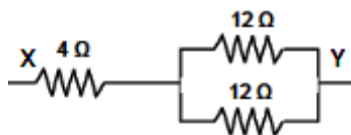
**Max Marks: 100**

**SCIENCE**

1. The mass and the weight of a man in the earth is 70 kg and 686 N, and his weight on moon is found to be 114N. Then acceleration due to gravity on Moon is  
(1)  $9.8 \text{ ms}^{-2}$                       (2)  $1.63 \text{ ms}^{-2}$                       (3)  $6.13 \text{ ms}^{-2}$                       (4)  $1.36 \text{ ms}^{-2}$
2. Take two sheets of paper of same mass. Make a sheet into a ball. Now drop both sheets from a same height at the same time in an evacuated room. What will happen?  
(1) Paper ball hits the ground first                      (2) Unfolded sheet hits the ground first  
(3) Both hits the ground at same time                      (4) Both floats at a certain height
3. An object of size 1 cm is placed at a distance of 15 cm from a concave mirror of focal length 10cm. If the image is formed at 2 cm from the mirror, then the height of the object is  
(1) 1 cm                      (2) 2 cm                      (3) -1 cm                      (4) - 2 cm
4. The sensation of sound persist in the brain for about ----- seconds  
(1) 1/1000                      (2) 1/100                      (3) 1/10                      (4) 1
5. The inner organ of human can be visualized using  
(1) SONAR                      (2) Infrasonic                      (3) Doppler Effect                      (4) Ultrasonography
6. Match the item in Group A with Group B  

<u>Group A</u>	<u>Group B</u>
a) Small dimension	- i) Metre
b) Large dimension	- ii) Vernier Caliper
c) Long distance	- iii) Measuring tape
d) Small distance	- iv) Astronomical Unit

  
(1) a-iii, b-ii, c-i, d-iv                      (2) a-iii, b-i, c-iv, d-ii  
(3) a-ii, b-iii, c-iv, d-i                      (4) a-ii, b-iv, c-I, d-iii
7. Find the effective resistance between X and Y



- (1)  $4 \Omega$                       (2)  $8 \Omega$                       (3)  $10 \Omega$                       (4)  $12 \Omega$
- 
8. **Assertion (A):** The stability of nucleus is determined by proton neutron ratio.  
**Reason (R):** Hydrogen atom is unstable due to the absence of neutron in the nucleus.  
(1) A and R are correct                      (2) A is correct, R is wrong.  
(3) A is wrong, R is correct                      (4) Both A and R are wrong

9. Match the following

- |                            |   |                            |
|----------------------------|---|----------------------------|
| a) Michael Faraday         | - | battery                    |
| b) George Simon Ohm        | - | Dynamo                     |
| c) Alessandro Volta        | - | Radioactivity              |
| d) Henry Becquerel         | - | Relation between V and I   |
| (1) a-iii, b-ii, c-i, d-iv |   | (2) a-iii, b-i, c-iv, d-ii |
| (3) a-ii, b-iii, c-iv, d-i |   | (4) a-ii, b-iv, c-i, d-iii |

10. If the mass of an object at the equator of earth is 5 kg, then the weight of the object at poles would be

- (1) greater than 49 N      (2) lesser than 49 N      (3) equal to 49 N      (4) data is insufficient

11. Who was popularly called as the “Rocket Man” for his significant contribution to the Development of cryogenic engines in Indian space programme?

- (1) Mayilsammy Annadurai      (2) A.P.J Abdul Kalam  
(3) Vikram Sarabai      (4) K.Sivan

12. When a carpet is beaten with a stick, dust comes out of it. This is due to\_\_\_\_\_.

- (1) Newton’s First Law of Motion      (2) Newton’s Second Law of Motion  
(3) Newton’s Third Law of Motion      (4) none of the above

13. Which among the following pairs form isotones?

- (1)  ${}_{11}\text{Na}^{23}$ ,  ${}_{12}\text{Mg}^{24}$       (2)  ${}_6\text{C}^{13}$ ,  ${}_6\text{C}^{14}$       (3)  ${}_{20}\text{Ca}^{40}$ ,  ${}_{18}\text{Ar}^{40}$       (4)  ${}_8\text{O}^{18}$ ,  ${}_{17}\text{Cl}^{37}$

14. Match the following:

- |                            |   |                               |
|----------------------------|---|-------------------------------|
| a) Uranium 235             | - | i) treatment of cancer        |
| b) Iodine 131              | - | ii) age of plants and animals |
| c) Carbon 14               | - | iii) nuclear reactor          |
| d) Cobalt 60               | - | iv) treatment of goiter       |
| (1) a-iii, b-ii, c-i, d-iv |   | (2) a-ii, b-iv, c-iii, d-i    |
| (3) a-iii, b-iv, c-ii, d-i |   | (4) a-ii, b-iv, c-i, d-iii    |

15. A grain of common salt contains ----- particles

- (1)  $6.032 \times 10^{23}$       (2)  $6.023 \times 10^{23}$       (3)  $1.602 \times 10^{19}$       (4)  $1.2 \times 10^{18}$

16. Choose the odd one out based on particle size

- (1) Protein      (2) Paint      (3) Rectified Spirit      (4) Egg Yolk

17. A solution is prepared by dissolving a solute in 70 g of water and its concentration in terms of weight percent is found to be 12. 5%, then the weight of the solute is

- (1) 0. 5 g      (2) 10 g      (3) 80 g      (4) 125 g

18. If  $\text{SO}_2 = 64$  g, then  $\text{H}_2 \text{SO}_4 =$  -----

- (1) 96 g      (2) 98 g      (3) 66 g      (4) 130 g

19. The atmosphere of Venus is made of thick white and yellowish clouds of -----

- (1) Hydrochloric acid      (2) Sulphuric acid      (3) Nitric acid      (4) Phosphoric acid

20. The direction of rotation of the loop in an electric motor is given by  
 (1) Fleming's right-hand rule (2) Fleming's left-hand rule  
 (3) Maxwell's right hand thumb rule (4) Maxwell's left hand thumb rule
21. On the basis of particle size choose the correct series given below  
 (1) proton > neutron > electron (2) neutron > electron > proton  
 (3) neutron > proton > electron (4) neutron = proton > electron
22. Solder is an alloy of  
 (1) Sn and Pb (2) Cu and Sn (3) Cu and Zn (4) Al and Cu
23. Oil does not mix with water. This is because  
 (1) water is polar and oil is non-polar, their molecules are not attracted to each other  
 (2) oil is a non-polar compound, it dissolves only in non-polar solvent  
 (3) both 1 and 2  
 (4) density of oil is lesser than of water
24. I am highly reactive and unstable. I can react and oxidize all type of biomolecules including DNA, proteins, enzymes, etc,. Who am I?  
 (1) nascent oxygen (2) oxygen (3) nascent hydrogen (4) hydrogen
25. What kind of immunity does a child get when it is breast fed?  
 (1) Immuno globins (2) Insulin (3) Steroid (4) Vitamin
26. .... is an endangered species living in mudumalai wild life sanctuary at Nilgiri, Tamilnadu  
 (1) Cuon delphines (2) Cuon alpines (3) Cuon lolphines (4) Cuon lephines
27. Normally in a healthy adult the initial filtrate in the kidney is about .....litre daily.  
 (1) 140 (2) 160 (3) 120 (4) 180
28. .... is also called the dancing plant  
 (1) Desmodium gyrans (2) Mimosa Rudica (3) Helianthus annuus (4) sunflower
29. Among the following which one of the flower blooms in the morning and closes in the evening  
 (1) Mimosa pudica (2) Helianthus annuus  
 (3) Taraxacum officinale (4) Tesmodium Kirans.
30. .... is declared as global iodine deficiency day  
 (1) November 21<sup>st</sup> (2) October 21<sup>st</sup> (3) September 21<sup>st</sup> (4) December 21<sup>st</sup>
31. Seeds are preserved at ..... temperature.  
 (1) Sub-zero (2) Zero (3) +23°C (4) +30°C
32. Match the following  
 (i) Phototropism - a) Gravity  
 (ii) Thigmotropism - b) Water  
 (iii) Hydrotropism - c) Light  
 (iv) Geotropism - d) Touch  
 (1) i-c, ii-d, iii-b, iv-a (2) i-d, ii-c, iii-a, iv-b  
 (3) i-c, ii-a, iii-b, iv-d (4) i-b, ii-a, iii-d, iv-c

33. Bio sonar is used by .....  
 (1) Cow (2) Crow (3) Bat (4) Parrot
34. Which is the only invertebrate that is capable of emotions, self awareness and personality?  
 (1) Snail (2) Starfish (3) Sea lily (4) Octopus
35. Which hormone indirectly affects the growth of the body?  
 (1) Neurohypopysis (2) Personality hormone  
 (3) Adenohypopysis (4) Oxytosin
36. The world food day is celebrated in .....  
 (1) October 16<sup>th</sup> (2) December 16<sup>th</sup> (3) November 16<sup>th</sup> (4) July 16<sup>th</sup>
37. Which one of the following produces negatively geotropic roots for respiration?  
 (1) Vanda (2) Avicennia (3) Banyan (4) Cuscutta
38. The gas which is filled in air tight packet of potato wafers and other food product is  
 (1) Neon (2) Helium (3) Hydrogen (4) Nitrogen
39. Which of the following bacteria multiplies rapidly?  
 (1) Vibrio Cholera (2) Salmonella Typhi  
 (3) Azotobacter (4) Mycobacterium Tuberculosis
40. The fruit which develops from a monocarpellary unilocular syncarpous ovary is  
 (1) Calotropis (2) Tridax (3) Cashewnut (4) Pea

### **SOCIAL SCIENCE**

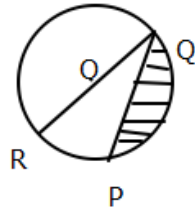
41. \_\_\_\_\_ refused to receive the welcome address from the Madras Mahajana Sabha.  
 (1) Lord Irwin (2) Lord Curzan (3) Lord William (4) Lord Elgin.
42. Palaeontology is the study of \_\_\_\_\_  
 (1) Fossils (2) Culture (3) Migration (4) Ancestors
43. The dead body was stored in a stone coffin called \_\_\_\_\_  
 (1) Sarcophagus (2) Mummy (3) Viziers (4) Pyramid
44. The Egyptian writing system was deciphered by the French Scholar \_\_\_\_\_  
 (1) Mencius (2) Francois Champollion  
 (3) Henry Heras (4) Askoparpola
45. The Harappan cattle are called \_\_\_\_\_  
 (1) Zebu (2) Zulu (3) Bison (4) Bulls
46. The Pamban coast is famous for \_\_\_\_\_  
 (1) Shells (2) Glass beads (3) Carnelian stones (4) Pearl fishery
47. The Holy book of Zoroastrians is \_\_\_\_\_  
 (1) Zend Avesta (2) Tao Teh Ching (3) Taoism (4) Ahuramazda

48. \_\_\_\_\_ was later known as Kautilya  
 (1) Chandragupta (2) Samudragupta (3) Vishnugupta (4) Bindusara
49. \_\_\_\_\_ was founded by Maskariputra Gosala  
 (1) Buddhism (2) Jainism (3) Ajivika (4) Taoism
50. \_\_\_\_\_ were called the Babylonians  
 (1) Amorites (2) Aryans (3) Sumerians (4) Mesopotomians
51. The word Feudalism is derived from the \_\_\_\_\_ word.  
 (1) Greek (2) Latin (3) French (4) German
52. \_\_\_\_\_ was the first person to coin the word Socialism.  
 (1) Robert Owen (2) John Brindley (3) Davies (4) Robert Fulton
53. The religious order known as the society of Jesus was founded by \_\_\_\_\_.  
 (1) Martin Luther (2) Charles V (3) Ulrich Zwingli (4) Ignatius Loyola
54. The Eastern and Western Ghats meet at the \_\_\_\_\_ Plateau.  
 (1) Madurai (2) Coimbatore (3) Nilgris (4) Bharamahal
55. Pichavaram Mangrove forest is found in \_\_\_\_\_ district.  
 (1) Thanjavur (2) Trichy (3) Nagai (4) Cuddalore
56. Tamilnadu Rice Research institute is in \_\_\_\_\_.  
 (1) Cuddalore (2) Neyveli (3) Aduthurai (4) Chennai
57. \_\_\_\_\_ is known as "Little Japan".  
 (1) Kanchipuram (2) Sivakasi (3) Salem (4) Chennai
58. Diastrophism is connected to \_\_\_\_\_.  
 (1) Volcanism (2) Earthquakes (3) Tectonics (4) Fold / Fault
59. \_\_\_\_\_ reflects radio waves.  
 (1) Exosphere (2) Ionosphere (3) Mesosphere (4) Stratosphere
60. The highest peak of south India is \_\_\_\_\_.  
 (1) Anaimalai (2) Anaimudi (3) Mt Everest (4) K2
61. The mountain which lie parallel to the direction of the Southwest Monsoon winds \_\_\_\_\_.  
 (1) Aravalli (2) Satpura (3) Vindhya (4) Maikala
62. Which one of the following mineral is contained in the Monazite sand \_\_\_\_\_.  
 (1) Oil (2) Uranium (3) Thorium (4) Coal
63. In India the first Hydro electricity power station was started in \_\_\_\_\_.  
 (1) 1827 (2) 1897 (3) 1927 (4) 1987
64. The oldest and the largest integrated Iron and Steel plant located in India is \_\_\_\_\_.  
 (1) Durgapur (2) Kanpur (3) Jamshedpur (4) Burnpur

65. Acid rain was first discovered in \_\_\_\_\_.  
 (1) 1752 (2) 1825 (3) 1852 (4) 1895
66. The first general election after Independence in India was held on \_\_\_\_\_.  
 (1) 1948 (2) 1952 (3) 1957 (4) 1967
67. The total number of Recognised National Parties in India is  
 (1) 7 (2) 10 (3) 11 (4) 12
68. The Guardian of our Constitution is  
 (1) High Court (2) Supreme Court (3) District Court (4) Bench Court
69. As per Constitution of India the judges of Supreme Court retire at the age of  
 (1) 56 (2) 58 (3) 60 (4) 65
70. In 1956, Nazim, the President of Egypt Nationalized ..... canal.  
 (1) Bakkhingham (2) Suez (3) Panama (4) Indira
71. Bi-party system exists in .....  
 (1) China (2) Cuba (3) India (4) England
72. Election Commission of India may be called as .....  
 (1) Nirvachan Sadan (2) Nirvachan Adalat  
 (3) Nirvachan Kishan Sadan (4) Nirvachan Rajya Sadan
73. Which State has the highest installed Solar capacity in India  
 (1) Kerala (2) West Bengal (3) Andhra Pradesh (4) Tamilnadu
74. Thermal Planet emits large quantity of .....  
 (1) Oxygen (2) Nitrogen (3) Methane (4) Carbon dioxide
75. Tertiary sector includes  
 (1) Transport (2) Insurance (3) Banking (4) All of these
76. If price decreases the supply also decrease it denotes  
 (1) Law of Demand (2) Law of Supply (3) Law of Business (4) Law of Government
77. The Term “Laissez Faire” means  
 (1) Intervention by Private (2) Non- Intervention by the Private  
 (3) Intervention by the Government (4) Non-Intervention by the Government
78. In olden days, the government was more or less a ..... state.  
 (1) Police (2) Welfare (3) Agriculture (4) Industry
79. The Planning Commission of India has been renamed as .....  
 (1) LIC Aayog (2) IIT Aayog (3) PCI Aayog (4) NITI Aayog
80. According to 2011 Census, India's Literacy rate is.....  
 (1) 73 % (2) 74% (3) 75% (4) 76%

81. Let  $W$  be the set of whole number,  $P$  be the set of Prime number in  $W$  and  $A = \{n/n \in W, n \text{ is a multiple of some prime } p \in P\}$  then  $W - A$  is  
 (1) empty set (2) of cardinality 2  
 (3) Singleton Set (4) a finite set of cardinality greater than 2
82. The product of two number is 9375 and when larger one is divided by the smaller, the quotient is 15, then the sum of the number .....  
 (1) 380 (2) 395 (3) 400 (4) 425
83. The value of  $(\sin 1^\circ \sin 2^\circ \sin 3^\circ \dots \sin 89^\circ) + (\cos 1^\circ \cos 2^\circ \cos 3^\circ \dots \cos 89^\circ)$  is  
 (1) 0 (2)  $\frac{1}{\sqrt{2}}$  (3)  $\sqrt{2}$  (4)  $\frac{1}{4}$
84.  $\frac{\tan(90-\theta)}{\csc\theta + 1} + \frac{\operatorname{cosec}\theta + 1}{\cot\theta} =$   
 (1)  $2 \csc\theta$  (2)  $2 \sec\theta$  (3)  $2 \cot\theta$  (4)  $2 \sin\theta$
85. If the total surface area of solid right circular cylinder is  $500\pi \text{ cm}^2$  and its radius is 15 cm then the sum of its height and radius is.....  
 (1)  $50/3 \text{ cm}$  (2)  $100/3 \text{ cm}$  (3)  $150/3 \text{ cm}$  (4)  $200/3 \text{ cm}$
86. Two concentric circles have Centre at  $O$  and radii 8 cm and 17 cm respectively. If the tangent of the small circle is the chord of the big circle, then what is the length of the chord  
 (1) 9 (2) 15 (3) 25 (4) 30
87. Two dice are tossed. The probability that the total score is a prime number is.....  
 (1)  $1/6$  (2)  $5/12$  (3)  $\frac{1}{2}$  (4)  $7/9$
88. The length of the minute hand of a clock is 21 cm. Find the area swept by the minute hand in 20 minutes  
 (1) 264 (2) 462 (3) 624 (4) 642
89. Which of the following are true?  
 (i) Some isosceles triangles are equilateral triangles  
 (ii) Some rational numbers are integers  
 (iii) All equilateral triangles are isosceles triangles  
 (iv) Not all integers are rational  
 (1) (i), (ii) and (iv) (2) (ii), (iii) and (iv)  
 (3) (i), (iii) and (iv) (4) (i), (ii) and (iii)
90.  $\sin 2A = 2 \sin A$  is true when  $A$  is  
 (1)  $0^\circ$  (2)  $30^\circ$  (3)  $45^\circ$  (4)  $60^\circ$
91. If the sum of two angles in a triangle is equal to the third angle then it is  
 (1) Equilateral triangle (2) Obtuse angled triangle  
 (3) Isosceles triangle (4) Right angled triangle

92. The area of the shaded region if  $PQ = 15\text{cm}$ ,  $PR = 8\text{ cm}$  and  $O$  is the Centre of the circle is



(1)  $\frac{4532}{28} \text{ cm}^2$

(2)  $\frac{4525}{14} \text{ cm}^2$

(3)  $\frac{4523}{28} \text{ cm}^2$

(4)  $\frac{4023}{14} \text{ cm}^2$

93. Suppose that  $A_1, A_2, A_3, \dots, A_{50}$  are 50 sets each with six elements and  $B_1, B_2, B_3, \dots, B_m$  are 'm' sets with five elements. Let,  $\bigcup_{i=1}^{50} A_i = \bigcup_{j=1}^m B_j = A$ . If each element of  $A$  belongs to exactly 15 and  $B$  belongs to exactly 10 then  $m$  is

(1) 20

(2) 30

(3) 40

(4) 50

94. If  $a^z = by + cz$ ,  $b^z = cz + ax$ ,  $c^z = ax + by$ , then the value of  $\frac{x}{a+x} + \frac{y}{b+y} + \frac{z}{c+z}$  is

(1) 1

(2) 2

(3) 3

(4) 4

95. If  $\frac{4}{2+\sqrt{3}-\sqrt{7}} = \sqrt{a} + \sqrt{b} + \sqrt{c}$  then the value of  $a + b + c$  is

(1)  $\frac{3}{11}$

(2)  $\frac{14}{3}$

(3)  $\frac{3}{15}$

(4) 1

96. Two circles of radii 5 cm and 3 cm intersect at two points and the distance between their centres is 4 cm. Find the length of the common chord

(1) 3 cm

(2) 4 cm

(3) 5 cm

(4) 6 cm

97. If  $\log_{12} 27 = a$  then  $\log_6 16$  is

(1)  $\frac{(3-a)}{4(3+a)}$

(2)  $\frac{(3+a)}{4(3-a)}$

(3)  $\frac{4(3+a)}{(3-a)}$

(4)  $\frac{4(3-a)}{(3+a)}$

98. The angle between the bisectors of the two acute angles of a right angle triangle is:

(1)  $90^\circ$

(2)  $112\frac{1}{2}^\circ$

(3)  $120^\circ$

(4)  $135^\circ$

99.  $AB$  is a line segment and  $M$  is its mid point. Semi-circles are drawn with  $AM$ ,  $MB$  and  $AB$  as diameters on the same side of  $AB$ . A circle is drawn to touch all the three semi-circles. Its radius is

(1)  $\frac{AB}{3}$

(2)  $\frac{2}{3} AB$

(3)  $\frac{AB}{6}$

(4)  $\frac{3}{4} AB$

100. If the perimeter of a square and a rectangle are the same, the  $A$  and  $B$  enclosed by them respectively would satisfy the condition .....

(1)  $A < B$

(2)  $A \leq B$

(3)  $A > B$

(4)  $A \geq B$

**FOR ROUGH WORK ONLY**

## KEY TO NTSE MAT-2018

Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer
1	(3)	16	(4)	31	(2)	46	(2)	61	(2)	76	(1)	91	(2)
2	(4)	17	(4)	32	(3)	47	(2)	62	(4)	77	(4)	92	(3)
3	(2)	18	(1)	33	(2)	48	(4)	63	(3)	78	(1)	93	(1)
4	(4)	19	(1)	34	(4)	49	(4)	64	(2)	79	(1)	94	(2)
5	(3)	20	(4)	35	(3)	50	(3)	65	(3)	80	(4)	95	(4)
6	(3)	21	(3)	36	(3)	51	(4)	66	(1)	81	(3)	96	(2)
7	(4)	22	(2)	37	(3)	52	(4)	67	(3)	82	(4)	97	(2)
8	(2)	23	(2)	38	(1)	53	(4)	68	(3)	83	(1)	98	(2)
9	(3)	24	(3)	39	(4)	54	(4)	69	(1)	84	(1)	99	(3)
10	(2)	25	(3)	40	(2)	55	(2)	70	(2)	85	(1)	100	(3)
11	(3)	26	(4)	41	(2)	56	(4)	71	(2)	86	(2)		
12	(4)	27	(3)	42	(4)	57	(3)	72	(1)	87	(2)		
13	(3)	28	(2)	43	(1)	58	(1)	73	(4)	88	(2)		
14	(2)	29	(4)	44	(3)	59	(4)	74	(4)	89	(4)		
15	(2)	30	(1)	45	(1)	60	(4)	75	(3)	90	(3)		

## KEY TO NTSE SAT-2018

Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer	Q. No.	Ans wer
1	(2)	16	(3)	31	(1)	46	(4)	61	(1)	76	(2)	91	(4)
2	(3)	17	(2)	32	(1)	47	(1)	62	(2)	77	(4)	92	(3)
3	(4)	18	(2)	33	(3)	48	(3)	63	(2)	78	(1)	93	(3)
4	(3)	19	(2)	34	(4)	49	(3)	64	(3)	79	(4)	94	(1)
5	(4)	20	(2)	35	(2)	50	(1)	65	(3)	80	(2)	95	(2)
6	(3)	21	(3)	36	(1)	51	(2)	66	(2)	81	(2)	96	(4)
7	(3)	22	(3)	37	(2)	52	(1)	67	(1)	82	(3)	97	(4)
8	(1)	23	(3)	38	(4)	53	(4)	68	(2)	83	(3)	98	(4)
9	(4)	24	(1)	39	(4)	54	(3)	69	(4)	84	(2)	99	(3)
10	(1)	25	(1)	40	(4)	55	(4)	70	(2)	85	(1)	100	(3)
11	(4)	26	(2)	41	(4)	56	(3)	71	(4)	86	(4)		
12	(1)	27	(4)	42	(1)	57	(2)	72	(1)	87	(2)		
13	(1)	28	(1)	43	(1)	58	(4)	73	(4)	88	(2)		
14	(3)	29	(3)	44	(2)	59	(3)	74	(4)	89	(4)		
15	(4)	30	(2)	45	(1)	60	(2)	75	(4)	90	(1)		