

Paper No. I
Pages: 32

## Medium : English First Language and Mathematics



Time: 11:00 to 12:30

Read the following instructions carefully before you answer the questions.
(1) This question paper contains two sections. In Section I there are $\mathbf{1}$ to $\mathbf{2 5}$ questions of First Language and in Section II there are $\mathbf{2 6}$ to $\mathbf{7 5}$ questions of Mathematics. All $\mathbf{7 5}$ questions are compulsory.
(2) All questions carry $\mathbf{2}$ marks each.
(3) Time limit to solve the question paper is $\mathbf{9 0}$ minutes.
(4) Separate answer sheet is given to record the answers. Each question has been given four alternatives. Read them carefully. Select the correct answer and shade the correct answer in the answer sheet. Example :- If the correct alternative for Q. No. 6 is 2, then record your answer as follows:
Question No. 6
(1)
(3) (4)
(5) Answer recorded in any other form will not be considered. Such answer will be credited with 'Zero' mark.

Example: (2) (2) ( 3 ( 3
(6) While recording the correct option in the answer sheet, use only black or blue ball pen. Otherwise it will be credited as 'Zero' mark.
(7) Answer once recorded cannot be changed.
(8) Maximum $20 \%$ questions are having two correct alternatives. Candidate has to darken both the circles with correct answers. These questions will have the instruction 'Select two correct alternatives'.
(9) Any kind of answers recorded in more than one circle will not be considered except for those questions having instruction ' Select two correct alternatives'.
(10) The rough work is to be done in the box given under each page or on the last page of the question paper.
(11) The exam has limited time, in case you are not able to solve a question, kindly solve the next question. In the end if time permits you can try to solve the unsolved questions.
(12) If you find any question incomplete or with error, then do not ask anything to the Supervisor or Centre Incharge.
(13) For any error/mistake/objection issues, school or parents should not send written application to Block Education Officer or Education Officer. These error/ mistake/objection issues should be register online through respective school login only.
(14) The error/ mistake/ objection issues should be register online within 10-days from the publication of Interim answer key on MSCE website.
(15) Questions can be cancelled due to printing mistake or any other reason, on the basis of the suggestions given by the Committee of Experts.
(16) Along with the question paper of the respective medium, the English version of question paper is also provided. In case of doubt please refer to the English version of the same question.

## विभाग I

## प्रथम भाषा

## Instructions for Q. Nos. 1 to 2 : Read the following news and choose the correct option.

Over 10,000 people participate in Final Yoga Event in China.

## Press trust of India, June 25, 2017

Beijing: More than 10,000 people took part in the final event marking the $3^{\text {rd }}$ International Day of Yoga in China today. The event the final in the series of programme organised in 12 cities was held in eastern China. Spread over 10 practice venues, with nearly nine Indian Yoga teachers taking the stage, a mass yoga session was held concurrently for the 10,000 participants. A large number of Indian students pursuing medicine traveled to Wu-xi for event. Mayor of Wu-xi said that, Yoga is another Facet of the 1ong-standing cultural co-operation between India and China and with today's massive event he expects that Yoga will become the 'signature name card' for the city.

## Space for Rough Work

1. By reading the news, we can say that -

The Indians made their mark in Yoga Event at China as $\qquad$ and $\qquad$ .
(1) News reporters, police
(2) Audience and evaluators
(3) Yoga teachers, participants.
(4) Editors, critics.
2. What is the headline suggests?
(1) People's participation in yoga event
(2) Event in China
(3) Signature name card
(4) The relation between India and China

## Space for Rough Work

3. Choose one alternative of comparative degree. Naomi is not one of the cleverest girls in the class.
(1) Naomi is not so clever as some other girls in the class.
(2) Some girls of the class are cleverer than Naomi.
(3) Naomi is as clever as other girls in the class.
(4) Naomi is the cleverest girl in the class.
4. Choose one alternative. Fill in the blank with the correct question tag. Everybody has learnt the lesson, $\qquad$ ?
(1) has they?
(2) didn't they ?
(3) have they?
(4) haven't they?
5. Choose the correct alternative for the underlined word.

There is little hope for his nephew's recovery. Yet he showed little concern for his nephew.
(1) adverb
(2) noun
(3) adjective
(4) preposition.
6. Choose one alternative to the given riddle. I travel all over the world, but always stay in my corner, what am I ?
(1) passport
(2) stamp
(3) visa
(4) ticket
7. Choose two options for the following underlined word. How can you replace it?

India is the land of medicants. Baba Amte was one such soul, popular and with profound respect known as $\qquad$ .
(1) teacher
(2) sadhu
(3) sage
(4) philosopher.

Instructions for $\mathbf{Q}$. Nos. 8 to 9 : Read the passage and choose the correct alternative.

Trees give shade for the benefit of others and while they themselves stand in the sun, and endure scorching heat, they produce the Fruit by which others get profit. The character of good men is like that of trees. What is the we use of this perishable body, if no use of it is made for the benefit of mankind? Sandalwood- the more it is rubbed, the more scent does it yeild. Sugercane- the more it cut into pieces the more juice it produces. Gold-the more it burned, the more brightly it shines. The men with noble hearts do not lose their qualities even in losing their life. Life itself is unprofitable to a man who does not live for others. Those who lay down their lives for the sake of friend or even for the sake of a stranger will assuredly dwell Forever in a world of bliss.

Space for Rough Work

0511 - A
8. Choose two correct options.

The person assuredly dwell in a world of bliss who lay down their lives
$\qquad$ -
(1) For the sake of oneself.
(2) For the sake of stranger.
(3) For the sake of a Friend.
(4) For the sake of profit.
9. What is that which shines brightly after it burned?
(1) candle
(2) sandalwood
(3) gold
(4) copper
10. Choose the correct option to complete the following quotation.
___ don't do different things, they do the things differently.
(1) successors
(2) followers
(3) leaders
(4) winners
(1) 1
(2) 2
(3) 3
(4) 4

## Space for Rough Work

11. Choose correct alternative for the following web. Choose correct passive voice.

(1) 2
(2) 1
(3) 4
(4) 3
12. Choose one alternative to complete the sentence of Indirect speech.

He asked them $\qquad$ they would listen to such a man.
(1) that
(2) whether
(3) to
(4) what

## Space for Rough Work

# Walk a little slower, daddy 

said a little child so small

I'm following in your Footsteps.

And I don't want to fall.

Someday when I'm all grown up,

You're what I want to be

Then I'll have a little child
who'll want to follow me.

And I would want to lead just right.

And know that I was true;

So walk a little slower Daddy, for I must Follow you.

## Space for Rough Work

## 13. Choose two correct options.

Why does the boy say to his father to walk little slower?
(1) because he doesn't want to fail.
(2) because he wants to lead just right.
(3) because he is following his foot steps.
(4) because he feels sick.
14. What did the boy in the poem don't want to?
(1) to be slow
(2) to fall
(3) to follow
(4) to lead
15. Complete the dialogue by choosing one alternative.

Vilas - Where are your neighbours? I want to meet them.

Sakshi - They $\qquad$ be away for the weekend but I am not sure.
(1) might
(2) can
(3) useto
(4) should

## Space for Rough Work

16. Choose one alternative for the following.

Raman was illeterate. He did not get a good job. It became very difficult for him to make both ends meet.
(1) to live with in one's income.
(2) to live with family.
(3) to live with friends.
(4) to live without income.
17. Complete the following sentence by choosing one alternative.
— was established to make peace among countries.
(1) UNO
(2) WHO
(3) USA
(4) SEATO

## Space for Rough Work

## 18. Choose the correct option.

Pick up the code-mixing sentence.
(1) Food is the vital source of energy. (2) Food is Purna Brahma.
(3) Food gives us strength.
(4) Without food no one can live.
(1) 4
(2) 3
(3) 1
(4) 2

Instructions for Q . Nos. 19 to 20 : Read the above website and answer the questions. Choose the correct option.


## Space for Rough Work

19. To whom should we enquire about state level NTS Examination.
(1) State officer
(2) National officer
(3) Liaison officer
(4) State Chairman
20. Which of the following is not there in drop-up menu bar?
(1) Home
(2) Publications
(3) Other details
(4) Contacts
(1) 4
(2) 1
(3) 2
(4) 3
21. Choose one alternative. Find out which figure of speech is used in the following sentence.

Keshav heard a bad news. The news was dagger to his heart.
(1) simile
(2) metaphor
(3) personification
(4) apostrophe

## Instructions for Q. Nos. 22 to 23 :



## 22. How many mails have an attachment?

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

## 23. From whom the person get notification of payment reminder?

(1) Travelo City
(3) Shreyash Enterprises
(3) Tata Docomo customer sevices
(4) Chetna Birla
24. Choose the correct option.

Anita sent a text to her mother as she had an urgent meeting. In her note she wrote 'HAND' at the end of the message.

What does the underlined word means $\qquad$ .
(1) How is your day?
(2) Have a nice day
(3) Don't mind
(4) Have a nice dinner
25. Choose one alternative. Find out type of sentence.

I shall do it now or I shall not do it at all.
(1) compound sentence.
(2) simple sentence.
(3) complex sentence.
(4) principal clause.

Space for Rough Work

## Section II

## Mathematics

26. Which of the following square number is the difference between the $49^{\text {th }}$ even number after 1575 and $70^{\text {th }}$ even number before 1028 ?
(1) 24
(2) 28
(3) 19
(4) 26
27. When Ravina read $\frac{3}{4}$ th part and 17 pages of a Marathi book, 28 pages were left to be read. When Kajal read $\frac{3}{5}$ th part and 20 pages of History book, 26 pages were left to be read.

How many more pages are there in Ravina's book than the number of pages in the book that Kajal has?
(1) 65
(2) 75
(3) 55
(4) 45
28. The ratio of the present ages of Aryan and Aditi is $4: 5$. Ratio of the present ages of Aditi and Atharva is $3: 2$. If the present age of Aryan is 24 years, find the present age of Atharva.
(1) 30 years
(2) 16 years
(3) 18 years
(4) 20 years

Space for Rough Work
29. $\left(\frac{\sqrt{6.25}+\sqrt[3]{0.729}+\sqrt{1.21}}{\sqrt{20.25}}\right)^{2}=$ ?
(1) 100
(2) 1
(3) 9
(4) 4
30. In the options below, lengths of 3 sides, to draw a triangle are given. In which option we can't draw a triangle?
(1) $5.5 \mathrm{~cm}, 4 \mathrm{~cm}, 7 \mathrm{~cm}$
(2) $7.2 \mathrm{~cm}, 3.7 \mathrm{~cm}, 5.2 \mathrm{~cm}$
(3) $4.2 \mathrm{~cm}, 3.4 \mathrm{~cm}, 8.5 \mathrm{~cm}$
(4) $8 \mathrm{~cm}, 4 \mathrm{~cm}, 5.3 \mathrm{~cm}$
31. The diameter of a wheel of a bullock cart is 1.4 m . How much distance will be covered if the wheel completes $\mathbf{7 5 0}$ rotations? (Choose two correct options)
(1) 3300 m
(2) 4400 m
(3) 3.3 km
(4) 4.40 km
32. How much more or less than 600 is the sum of all those two digit prime numbers that we get by interchanging the digits from the two digit prime numbers?
(1) more by 171
(2) less by 161
(3) more by 161
(4) less by 171
33. $\frac{\sqrt{(\sqrt{100})^{2}}-\left[(64)^{2}\right]^{\frac{1}{6}}}{(\sqrt{36})}=$ ? (Choose two correct options)
(1) $2^{3}$
(2) 8
(3) $10^{0}$
(4) 1
34. The measures of four angles of a quadrilateral are $(2 x+10)^{\circ},(3 x+15)^{\circ}$, $(4 x-30)^{\circ}$ and $(2 x-20)^{\circ}$ respectively; then find the measure of the smallest exterior angle of it.
(1) $60^{\circ}$
(2) $120^{\circ}$
(3) $100^{\circ}$
(4) $80^{\circ}$
35. Two electric poles are erected on the ground. The height of the poles is 20 m and 28 m respectively. The distance between the poles is $\mathbf{1 5 ~ m}$. To join the top of the poles, how much wire will be required?
(1) 8 m
(2) 15 m
(3) 48 m
(4) 17 m
36. Factorise the following expression and choose the correct alternative.
$27 x^{3}-\frac{64}{x^{3}}$
(1) $\left(3 x+\frac{4}{x}\right)\left(9 x^{2}-12+\frac{16}{x^{2}}\right)$
(2) $\left(3 x-\frac{4}{x}\right)\left(9 x^{2}+12+\frac{16}{x^{2}}\right)$
(3) $\left(3 x-\frac{4}{x}\right)\left(9 x^{2}-12-\frac{16}{x^{2}}\right)$
(4) $\left(3 x+\frac{4}{x^{2}}\right)\left(9 x^{2}+12+\frac{16}{x}\right)$
37. If $\frac{5 x-16}{7 x-18}=\frac{2}{3}$, find $x$
(1) 16
(2) 20
(3) 15
(4) 12
38. Adesh walked 200 m to North from his house. Then he turned in $90^{\circ}$ and walked 150 m to west. Again he turned in $90^{\circ}$ and walked 300 m to the North. After some time, he again turned through $90^{\circ}$ and walked 150 m to West. Then he turned through $90^{\circ}$ to his left and walked 100 m to the south. How far is he now, from his house?
(1) 900 m
(2) 750 m
(3) 500 m
(4) 600 m
39. 23 km 46 Decameter - 19 km 8 Hectometer 6 Decameter $=$ ?
(Choose two correct options)
(1) 4355 m
(2) 4.355 km
(3) 3600 m
(4) 3.654 km
40. The presentage of Shreya's mother is 4 times the age of Shreya, After 6 years her mother's age will be $2 \frac{1}{2}$ times the age of Shreya. Find the present age of Shreya.
(1) 8 years
(2) 10 years
(3) 6 years
(4) 9 years
41. The squares given in the following figure are congruent. The area of the given figure is 54 sq. units. Find the perimeter of the given figure.

(1) 54 sq. units
(2) 63 units
(3) 162 units
(4) 54 units
42. If $\mathbf{a}=\mathbf{m}, \quad b=m-4, \quad c=m+2$, then $4 a+3 b-7 c=$ ?
(1) 26
(2) 14
(3) -26
(4) -14
43. There are two wires of length 44 cm each. One wire is turned to give the form of a circle and the other is turned in the form of a square. Find the difference in the areas of two figures so formed.
(1) $110 \mathrm{~cm}^{2}$
(2) $33 \mathrm{~cm}^{2}$
(3) $66 \mathrm{~cm}^{2}$
(4) $44 \mathrm{~cm}^{2}$
44. Which of the following alternatives are not correct?
(1) A square can be called as a rectangle.
(2) All the properties of a rhombus are present in a square.
(3) If the side of a square is doubled then its area is 4 times the original area.
(4) All the properties of a square are present in a parallelogram.
45. In the following figure seg $P Q \|$ seg RS and seg EF || seg GH. Find $\angle M N H$.

(1) $127^{\circ}$
(2) $63^{\circ}$
(3) $53^{\circ}$
(4) $117^{\circ}$

## Space for Rough Work

46. Following is the frequency distribution table showing the ages of 100 students who had joined 'Sanskar Camp'. Find the mean of the ages.

| Age (years) | Frequency |
| :---: | :---: |
| 8.0 | 20 |
| 10.5 | 30 |
| 12.0 | 25 |
| 7.0 | 25 |

(Choose two correct options)
(1) 9.5 years
(2) 10 years 3 months
(3) 10.25 years
(4) 9 years 6 months
47. How many bricks of length, breadth, and height $25 \mathrm{~cm}, 15 \mathrm{~cm}, 5 \mathrm{~cm}$ respectively will be required to build a wall 50 m long 6 m high and $\frac{1}{2} \mathrm{~m}$ wide?
(1) 60,000
(2) 48,000
(3) $1,20,000$
(4) 80,000
48. Which of the following alternative means that ' $20 \%$ of one number is equal to $\mathbf{2 5 \%}$ of the other number'.
(1) $3 y=2 x$
(2) $6 x=4 y$
(3) $4 x=5 y$
(4) $2 x=3 y$
49. How much water will be contained in a cylindrical cement tank if diameter of the tank is 7 m and height is $\mathbf{6}$ times the radius?
(1) 808500 litres
(2) 880500 litres
(3) 850800 litres
(4) 800500 litres
50. In the following figure $E F \| I H . \angle F$ and $\angle I$ are right angles. If $E F=24 \mathrm{~cm}$, $\mathrm{EI}=9 \mathrm{~cm}, \mathrm{FG}=7 \mathrm{~cm}$ and $\mathrm{IH}=40 \mathrm{~cm}$.

Find the perimeter of the figure.

(1) 121 cm
(2) 96 cm
(3) 114 cm
(4) 80 cm
51. Ameya had ₹ 360 with him. The number of notes of $₹ 10$ is double the number of notes of ₹ 50 and the number of notes of $₹ 5$ are more by $\mathbf{1 2}$ than the number of notes of ₹ 50 . Find the total number of notes.
(1) 36
(2) 30
(3) 24
(4) 28

## Space for Rough Work

52. $\frac{3}{6 \frac{1}{4}}$ as a percent will become :
(1) $18 \%$
(2) $48 \%$
(3) $52 \%$
(4) $66 \%$
53. A sum amounts to ₹ 7440 in 3 years and to $₹ 8400$ in 5 years by simple interest. Find the rate of interest.
(1) $8 \%$
(2) $6 \%$
(3) $10 \%$
(4) $9 \%$
54. The multiplicative inverse of $\frac{1}{m+n}$ is -19 . If $n=-4$, find ' $m$ '
(1) 15
(2) 23
(3) -15
(4) -23
55. To join all the points on the circumference of the circle how many more segments should be drawn?

(1) 18
(2) 21
(3) 16
(4) 19

Space for Rough Work
56. Gopichand gives $\mathbf{4 0 \%}$ discount on the purchase of ₹ $\mathbf{5 0 , 0 0 0}$. Hiralal gives first $\mathbf{2 5 \%}$ discount on the purchase of ₹ $\mathbf{5 0 , 0 0 0}$ and then again gives $\mathbf{1 5 \%}$ discount to the customers. How much more or less amount will Hiralal receive than Gopichand?
(1) less by ₹ 1875
(2) more by ₹ 1785
(3) more by ₹ 1875
(4) no difference
57. The present population of a city is $3,02,500$. If the population increases by $10 \%$ every year, what was the population of the city two years ago?
(1) $2,80,000$
(2) $2,75,000$
(3) $2,48,000$
(4) 2,50,000
58. Line AB || Line RS || Line CD. Line PQ is the transversal. Find the total number of pairs of corresponding angles and interior angels.

(1) 12
(2) 24
(3) 18
(4) 28

## Space for Rough Work

59. The surface area of a sphere is $1386 \mathrm{~cm}^{2}$. Find the radius of the sphere.
(1) 11.5 cm
(2) 10.5 cm
(3) 8.5 cm
(4) 10.25 cm
60. Which polynomial will you get after subtracting $(4+9 y+2 x)$ from the sum of $(8 x-6 y+4)$ and $(6 y-3 x+7) ?$
(1) $3 x-9 y+7$
(2) $3 x-3 y+7$
(3) $7 x+9 y+15$
(4) $7 x-9 y-15$
61. Which of the following statements are false. (Choose two correct options)
(1) Average of five consecutive odd numbers is an odd number.
(2) The average of the given numbers in a group can be more than each number in the group.
(3) Average of two even numbers can be an odd number.
(4) If every number in a given group is reduced by a common number, then the average of the group does not change.

Space for Rough Work
62. A fruit-seller purchased 48 dozens oranges at the rate of $₹ 48$ per dozen, out of that 1 dozen oranges were spoiled. He sold the remaining oranges at the rate of ₹ 6 per orange. Find the profit that he earned in this transaction.
(1) ₹ 1128
(2) ₹ 1220
(3) ₹ 1080
(4) ₹ 1440
63. Find the degree of the following polynomial. $m^{5} n^{2} p+4 m^{4} n^{7}+\frac{2}{3} m^{3} n^{2} p+15 m^{2}$.
(1) 11
(2) 14
(3) 7
(4) 2
64. In the following figure, seg $O P \perp$ seg $S T$, chord $L M|\mid$ chord $S T$, ' $O$ ' is the centre of the circle. $O N=6 \mathrm{~cm}$ and $L M=16 \mathrm{~cm}$. Find the length of the longest chord that can be drawn in circle.

(1) 32 cm
(2) 20 cm
(3) 12 cm
(4) 22 cm

Space for Rough Work
65. The length of a side of a rhombus is 4.1 cm and one of its diagonals is 1.8 cm long. Find the area of the rhombus.
(1) 10.8 sq. cm
(2) 3.6 sq. cm
(3) 7.2 sq. cm
(4) 8.1 sq. cm
66. $\left(m+\frac{1}{m}\right)^{2}-\left(m-\frac{1}{m}\right)^{2}=$ ?
(1) 0
(2) $\left(4+\frac{2}{\mathrm{~m}^{2}}\right)$
(3) $\left(\mathrm{m}^{2}+\frac{1}{\mathrm{~m}^{2}}\right)$
(4) 4
67. A company deputed three representatives to promote its sales. The representatives were instructed that the first representative should report after every 6 days, the second representative should report after every 8 days and the third, representative should report after every $\mathbf{1 2}$ days, in the office. Find the minimum number of days when all the three will meet in the office together.
(1) 48
(2) 32
(3) 24
(4) 72
68. Read the following statements and choose the correct alternative.
(A) The numbers that are divisible by 6 are completely divisible by 2 and 3 also.
(B) The numbers divisible by 15 are also completely divisible by 3 and 5 .
(C) 600 is completely divisible by 2,3 and 5 .
(1) Only ' A ' is correct.
(2) Only ' B ' is correct.
(3) All the three statements ' A ', ' B ' and ' C ' are correct.
(4) All the three statements ' A ', ' B ' and ' C ' are incorrect.
69. The area of a circle with centre ' $O$ ' is $308 \mathrm{~cm}^{2}$. Find the perimeter of the shaded semi-circle from the following figure.
(1) 72 cm
(2) 58 cm
(3) 108 cm
(4) $36 \sqrt{2} \mathrm{~cm}$

70. $\frac{(4.8)^{3}+(3.2)^{3}}{(4.8)^{2}-(4.8)(3.2)+(3.2)^{2}}=$ ?
(1) 1.6
(2) 10
(3) 8
(4) 1

## Space for Rough Work

71. The co-ordinate of point $P$ on the number line is $\frac{4}{7}$. Distance between point $P$ and $Q$ is $\frac{9}{7}$. Find the co-ordinate of $Q$.
(1) $\frac{13}{7}$
(2) $\frac{5}{7}$
(3) $\frac{-13}{7}$
(4) $\frac{-5}{7}$
72. How many times will be the area of a square with side 20 cm to that of the area of a square with diagonal 20 cm .
(1) Half
(2) Two times
(3) Four times
(4) Three times
73. Two articles were sold for ₹ 1485 each. One of them incurred a loss of $10 \%$ while the other earned a profit of $\mathbf{1 0 \%}$. What was the percentage of profit or loss in the overall transaction?
(1) $1.0 \%$ profit
(2) $5 \%$ loss
(3) $1.0 \%$ loss
(4) No profit no loss

Instructions for $\mathbf{Q}$. Nos. 74 to 75 : The following pie diagram show the monthly expenses of a family on different items. If the monthly income of the family is ₹ $\mathbf{2 3}, 400$ answer the following questions.

A - Education

B - Miscellaneous expenses
C-Clothing
D - Food grains

74. What is the total expenditure on Education?
(1) ₹ 3250
(2) ₹ 5850
(3) ₹ 11700
(4) ₹ 9360
75. How much more expenses are incurred on clothing to that on Food grains?
(1) ₹ 3510
(2) ₹ 6110
(3) ₹ 4240
(4) ₹ 4420

