Seat No.

0 5 1 1   Set **D**

Medium : English

Paper No. I
Pages : 32

First Language and
Mathematics

Time : 11.00 to 12.30
Total Marks : 150

Read the following instructions carefully before you answer the questions.

(1) This question paper contains *two* sections. In Section **I** there are **25** questions of First Language and in Section **II** there are **50** questions on Mathematics. *All* **75** questions are compulsory.

(2) *All* questions carry **2** marks each.

(3) Time limit to solve the question paper is **90** 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.
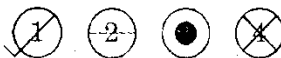
Example :—If the correct alternative for Q. No. **6** is **2**, then record your answer as follows :

Question No. 6   ① ● ③ ④

(5) Answer recorded in any other form will not be considered. Such answer will be marked 'zero'.

e.g.   ⊗ ⊖ ● ⊗

(6) While recording the correct option in the answer-sheet use only black or blue ball pen. Recording done with pencil will not be considered.

(7) Answer once marked cannot be changed or rewritten.

(8) In the question paper at the most 20% of the questions will have two correct alternatives out of the four given. To record both the correct alternatives is a must. 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 pages 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 about the questions one must give written application in person/by post/by E-mail directly to the Commissioner of the Council Examination. The school or parents should not approach Block Education Officer (BEO) or Education Officer (EO) for this matter.

(14) The application regarding the objection on any question must reach the Council of Examination within 10 days, after the answer key is published by Council of Examination on their web-site. Only the applications that will reach within the given time limit will be considered.

(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.

SECTION I

FIRST LANGUAGE

1. Choose the correct option for the given sentence :

   He was refused admission by the guard.

   (1) The guard refuses him admission.

   (2) The guard was refusing admission him.

   (3) The guard refused him admission.

   (4) He refused the guard admission.

2. Change the given compound sentence into simple sentence :

   He finished his exercise and put away his bag.

   (1) Having finished his exercise, he put away his bag.

   (2) Having finishing his exercise, he put away his bag.

   (3) Having put his bag away, he finished his exercise.

   (4) He finished his exercise putting away his bag.

3. The headmaster .... Gaurav as he saved drowning child.

   (Choose two correct alternatives)

   (1) admired   (2) praised

   (3) prayed   (4) scolded

4. Choose the correct preposition :

   One day the boy took his breakfast and ate it .... a purling brook.

   (1) of   (2) by

   (3) at   (4) on

5. Choose the correct –wh word to form a meaningful question for the given sentence :

An image of a sailing craft was found at Mohenjo Daro.

(A) What (B) How (C) Where

(1) (A), (B) correct (2) (B), (C) correct

(3) (A), (C) correct (4) (A), (B), (C) correct

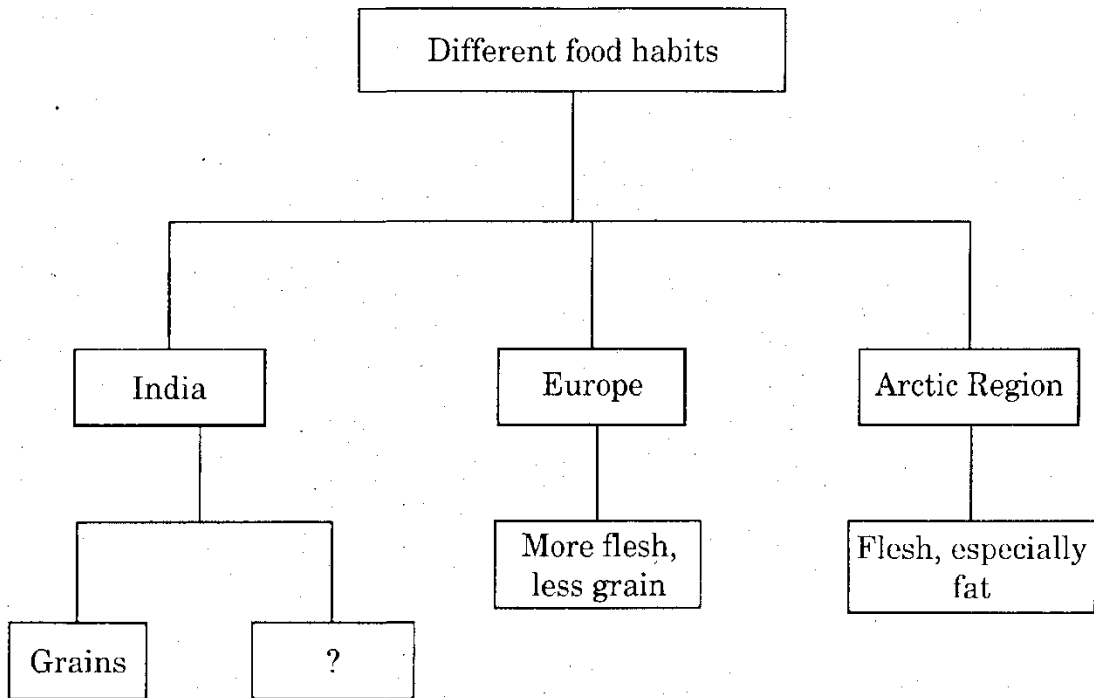**Instructions for Q. Nos. 6 to 8 : Read the following passage and answer the given questions :**

The human race is spread all over the world, from the polar regions to the tropics. The people of which it is made up, eat different kinds of food, partly according to the climate in which they live, and partly according to the kind of food which their country produces. Thus in India the people live chiefly on different kind of grains, eggs, milk or sometimes fish and meat. In Europe, the people eat more flesh and less grain. In the Arctic regions, where no grain and fruits are produced, the Eskimo and other races live almost entirely on flesh especially fat.

The men of one race are able to eat the food of another race, if they are brought into the country inhabited by the latter. But as a rule they still prefer their own food at least for a time owing to custom.

In hot climates, flesh and fat are not much needed, but in the Arctic regions they seem to be very necessary for keeping up the heat of the body.

6. Choose the *correct* alternative to complete the tree diagram :

```
            ┌─────────────────────┐
            │  Different food habits │
            └─────────────────────┘
                     │
     ┌───────────────┼───────────────────┐
     │               │                   │
┌─────────┐   ┌─────────┐      ┌──────────────┐
│  India  │   │ Europe  │      │ Arctic Region │
└─────────┘   └─────────┘      └──────────────┘
     │             │                   │
 ┌───┴───┐   ┌──────────┐      ┌──────────────┐
 │       │   │ More flesh, │    │ Flesh, especially │
┌─────┐ ┌─────┐ │ less grain │    │      fat       │
│Grains│ │  ?  │ └──────────┘    └──────────────┘
└─────┘ └─────┘
```

(1) more flesh   (2) less grain

(3) only fat   (4) eggs, milk

7. Find the reason by choosing correct option.

Flesh and fat are needed in Arctic region because ....

(1) The men of one race are able to eat the food of another race

(2) It is necessary for keeping up the heat of the body

(3) Grains are not good for their body

(4) The human race is spread all over the world

8. Choose the *correct* option to complete the following diagram :
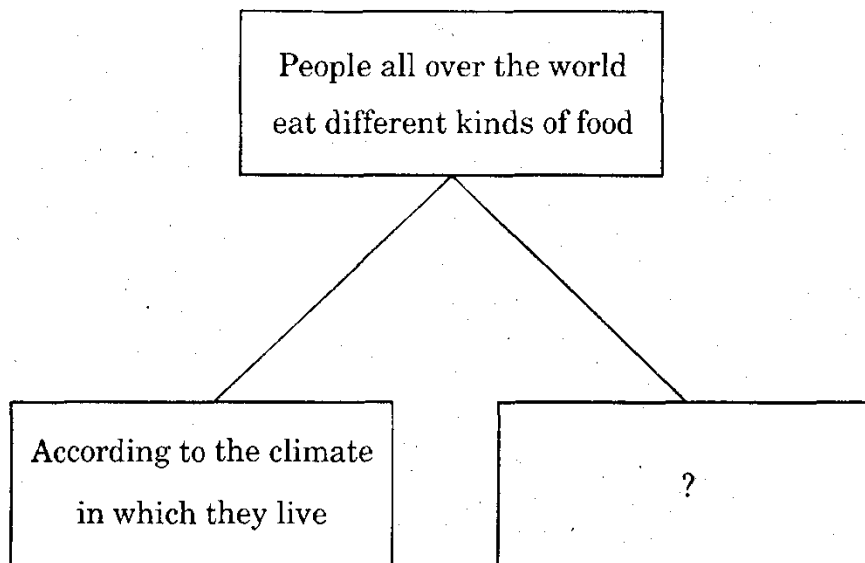
(1) Kind of food their country produces

(2) According to likes and dislikes

(3) Able to eat food of another race

(4) Like variety of food

Instructions for Q. Nos. 9 to 11 : Read the following notice and answer the questions given below :

<div style="border:1px solid black; padding:1em;">

ABC School

NOTICE

5-DAYS TREK !!

Come One ! Come All !!

Trekking enthusiats are invited to participate in a 5-days trekking expedition organised by the School's Sport Club.

Details are :

Trek to Sahaydri Mountain

Date : 5th May to 10th May 2017

Fees. : Rs. 2,500 per head

Names to be submitted to the undersigned

Mr. XYZ

(Secretary of Sports Club)

ABC School   20th April 2017

</div>

9. The notice gives information about :

   (1)   Inter-school competition

   (2)   Trek expedition

   (3)   Annual Social Gathering

   (4)   Funfair in the school

10. The interested students should submit their names to .... Secretary of the sports club.

   (1)   elected   (2)   promoted

   (3)   undersigned   (4)   rejected

11. On which date was the notice put up ?

   (1)   20th April   (2)   5th May

   (3)   10th May   (4)   2017

Instructions for Q. Nos. 12 to 14 : Read the following news and answer the questions :

New York : 15 January, 2016
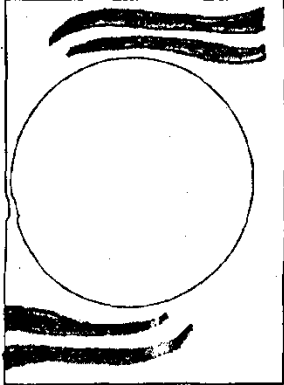
The pilot of a jetliner saved many lives today by showing great presence of mind. Minutes after the plane took off from La Guardia Airport, New York, it was hit by a flock of birds. This damaged its engines.

It was not possible to return to La Guardia, so the pilot decided to land the plane in the vast expanse of the Hudson River rather than to land it in a crowded part of New York city.

This was a deliberate emergency landing. Ferries had already been informed and all passengers and crew were saved. They were lucky to escape with only shock and minor injuries.

12. Choose the suitable title for the above news report :

(1) Geographical Survey of Hudson River.

(2) Pollution in Hudson River.

(3) Emergency landing in the streets of New York.

(4) Emergency landing in Hudson River.

13. Complete the following sentence by choosing correct alternative from the news given :

The pilot of the jetliner saved many lives. It shows he was ....

(1) Weak minded   (2) Courageous

(3) Disturbed   (4) Timid

14. Why were the passengers called lucky ?

(1) As they escaped only with severe shock

(2) As they escaped only with minor injuries

(3) As they escaped only with shock and minor injuries

(4) As they escaped only with damaged engines

Instructions for Q. Nos. 15 to 17 : Read the following report and answer the following questions :

The city on Sunday recorded a maximum temperature of 27.5 degrees celsius and a minimum of 8.1 degrees celsius. Relative humidity was 46 percent.

Forecast : Mainly clear skies.

Minimum temperature would be around 9 degrees celsius.

Sunrise : 7.03 a.m.

Sunset : 6.02 p.m.

15. Select two correct prefixes for the word $\boxed{-\text{cast}}$:

(1) past (2) bread

(3) tele (4) broad

16. Fill in the blanks with appropriate option :

The report informs us about .... season.

(1) winter (2) summer

(3) rainy (4) autumn

17. Complete the following sentence by choosing correct alternative :

The timings of sunrise and sunset indicate ....

(1) days are long, nights are of shorter duration

(2) days are short, nights are of longer duration

(3) days and nights are of equal duration

(4) none of the above

18. Find out the non-English word from the given sentence :

Paramvir Chakra is India's highest military decoration.

(1) India (2) Military

(3) Paramvir Chakra (4) Decoration

19. Find the number of good qualities of an ideal king with the help of given grid. You can use any letter number of times :

N	O	L	D	P
B	E	K	I	F
R	A	H	V	U

KIND
BRAVE
NOBLE
~~STRONG~~

(1)   4   (2)   3

(3)   6   (4)   2

20. Write the contextual meaning of the underlined words :

She <u>looked at</u> the pearls and immediately said that they were not real.

(1)   to continue   (2)   to examine carefully

(3)   to seek information   (4)   to come to an end

21. Find two correct adjectives from the given sentence :

The ship sustained <u>heavy</u> damage and the captain died a <u>glorious</u> death.

(1)   death   (2)   damage

(3)   glorious   (4)   heavy

22. Identify the type of clause of the given sentence :

No one knows how old she is.

(1) Adjective clause   (2) Adverb clause of time

(3) Noun clause   (4) Adverb clause of reason

23. Identify the correct direct speech for the given indirect speech :

Dick says that he has once been to Spain.

(1) Dick says, "He has once been to Spain".

(2) Dick says, "I have once been to Spain."

(3) Dick says, "He have once been to Spain."

(4) Dick says, "I has once been to Spain."

24. Identify the figure of speech :

I wandered lonely as a cloud.

(1) Personification   (2) Metaphor

(3) Hyperbole   (4) Simile

25. Change the following sentence from the affirmative to negative form :

As soon as he came, he took objections.

(1) No sooner did he come than he took objections.

(2) No sooner does he come than he takes objections.

(3) No sooner do he come than he took objections.

(4) No sooner he came than he took objections.

SECTION II

MATHEMATICS

26. The length of the diagonal of a rhombus is 24 cm. If the side of the rhombus is 13 cm, find the length of the other diagonal.

    (1) 5 cm

    (2) 10 cm

    (3) 13 cm

    (4) 12 cm

27. Anuradha deposited Rs. 15,000 in a bank for 3 years at simple interest. If she received Rs. 24,000 at the end of the period, find the rate of simple interest.

    (1) 20 p.c.p.a.

    (2) 15 p.c.p.a.

    (3) 22 p.c.p.a.

    (4) 25 p.c.p.a.

28. Which of the following statements is *true* ?

    (A) Square is a rectangle

    (B) Rectangle is a parallelogram

    (C) Square is a parallelogram

    (D) Rhombus is a square

    (Select two correct alternatives)

    (1) (A) and (B) are true

    (2) (B) and (C) are true

    (3) (A), (B), (C), (D) are true

    (4) (C) and (D) are true

Space for Rough Work

29. The curved surface area of a cone is 204.1 sq.cm. Radius of its base is 5 cm. Find the perpendicular height of the cone. $(\pi = 3.14)$

(1) 5 cm

(2) 12 cm

(3) 13 cm

(4) 40.8 cm

30. Which polynomial should be added in $3x^3 - 2x^2 + 3$ to get the polynomial $3x^2 + 4$?

(1) $3x^3 + 5x^2 + 1$

(2) $3x^2 - 5x + 1$

(3) $-3x^3 + 5x^2 + 1$

(4) $-3x^3 - 5x^2 + 1$

31. Chandrapal purchased a plot for Rs. 9 lakhs. How much amount he will receive, if he sells the plot at a profit of 15% ?

(1) Rs. 10,25,000

(2) Rs. 10,20,000

(3) Rs. 10,35,000

(4) Rs. 10,45,000

Space for Rough Work

32. Find the value of :

$$\frac{10.5 \times 10.5 - 15 \times 10.5 + 7.5 \times 7.5}{10.5 - 7.5} = ?$$

(1) 17

(2) 3

(3) 6

(4) 22

33. The floor of a hall, 20 m in length and 17 m in breadth is to be tiled. How many square tiles will be required for tiling the hall if each square tile to be used has a side half metre ?

(1) 1360

(2) 68

(3) 680

(4) 1630

34. What will be the length of each piece of rope, if a rope 720 m in length is cut 7 times at equal distance ?

(1) 800 decim

(2) 700 decim

(3) 900 decim

(4) 1020 decim

Space for Rough Work

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35. Which of the following are the factors of the expression

$(2x + 3)^3 + 64$?

(1) $2(2x + 7)(2x^2 + 2x + 13)$

(2) $(2x + 7)(4x^2 + 4x + 13)$

(3) $(2x + 7)(4x^2 - 4x + 13)$

(4) $(2x + 3)(4x^2 + 4x + 13)$

36. A shopkeeper gives 8% discount on the printed price. If he sells a mobile hand set for Rs. 18,400, find the printed price of the hand set.

(1) Rs. 20,000

(2) Rs. 23,000

(3) Rs. 2,300

(4) Rs. 10,000

37. What is the cost of fencing a circular garden of radius 35 m with four rounds of wire, if the wire costs Rs. 44 per metre ?

(1) Rs. 38,720

(2) Rs. 38,730

(3) Rs. 38,740

(4) Rs. 38,750

Space for Rough Work

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38. The square of side 12 cm is cut on the diagonal and two triangles are formed. Out of the triangles so formed, find the perimeter of one triangle.

(1) $10\left(2 + \sqrt{2}\right)$ cm

(2) $12\sqrt{2}$ cm

(3) $12\left(2 + \sqrt{2}\right)$ cm

(4) $24\sqrt{2}$ cm

39. Find 7.5% of 1730. (Select two correct alternatives)

(1) 129.75

(2) 12975×10^{-2}

(3) 12975×10^{-3}

(4) 12.975

40. The side of an equilateral triangle is 12 cm. Find its area.

(1) $48\sqrt{3}$ sq.cm

(2) $36\sqrt{3}$ sq.cm

(3) $24\sqrt{3}$ sq.cm

(4) 36 sq.cm

41. Which of the following expressions is *not* a polynomial ?

(A) $x^2 - \dfrac{3}{x} + 7$ (B) $5x^2 - 10x - 5$

(C) $-\dfrac{10}{3}x^3 - 5x$ (D) $\sqrt{3}x^5 - \dfrac{7}{2}x - \dfrac{3}{2}$

(1) (A)   (2) (B)

(3) (C)   (4) (D)

42. The sides of a right angled triangle forming the right angle are 5 cm and 12 cm. Find the radius of the circumcircle of the triangle.

(1) 6.5 cm   (2) 3.5 cm

(3) 13 cm   (4) 6 cm
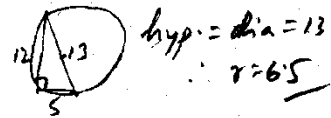
43. The diameter of the wheel of a tractor is 2.1 cm. If the wheel completes 250 rotations, find the total distance covered by the wheel ?

(1) 1.75 km   (2) 1.60 km

(3) 1.55 km   (4) 1.65 km

Space for Rough Work

0511—D | 17 of 32 | P.T.O.

(handwritten work at top of page)

$(x \times Rs5) + (x \times Rs20) = Rs600$

$Rs 25x = Rs600$

$x = 600/25 = 6 \times \frac{4}{100} = 24$

$5n + 20n$ $\frac{600-120}{25} = 24$

$25n =$

44. Sheetal has same number of coins and notes of Rs. 5 and Rs. 20 respectively. Total amount she has is Rs. 600. Find the number of 20 rupee notes Sheetal has.

(1)   48   (2)   24

(3)   60   (4)   72

45. Find the sum of additive inverse of $(5m + 7n)$ and additive inverse of $(-2m - 3n)$.

(handwritten) $-(5m+7n) = (-5m-7n)$

(handwritten) $= -(-2m-3n) = (2m+3n)$

(handwritten) $-5m - 7n + 2m + 3n$

(handwritten) $= -3m - 4n$

(1) $3m + 4n$ (2) $-3m - 4n$

(3) $7m - 4n$ (4) $-7m + 4n$

46. Which of the following options is *correct* ?

(1) $\dfrac{-2}{3} > \dfrac{-1}{2}$ *(handwritten)* $-4 > -3$ (2) $\dfrac{-2}{3} > \dfrac{1}{2}$

(3) $\dfrac{-5}{4} < \dfrac{-2}{3}$ *(handwritten)* $-15 < -8$ (4) $\dfrac{5}{4} < \dfrac{-2}{3}$

47. The measures of two angles having common vertex are 35° and 55°. Then find the *correct* statement from the following :

(1)   The angles are complementary to each other

(2)   The two angles are adjacent angles

(3)   The angles are vertically opposite to each other

(4)   The angles are supplementary

Space for Rough Work

(handwritten) $-5m - 7n$

(handwritten) $+ +2m + 3n$

(handwritten) $-3m - 4n$
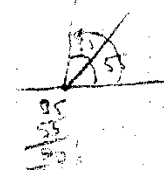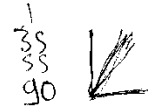
Instructions for Q. Nos. 48 and 49 : In a city a survey was conducted to find how many children were given 'Polio dose'. For this purpose children staying in different 'wards' were considered. The data collected is represented in the following sub-divided bar graph. Observe the bar-graph carefully and answer the following questions.
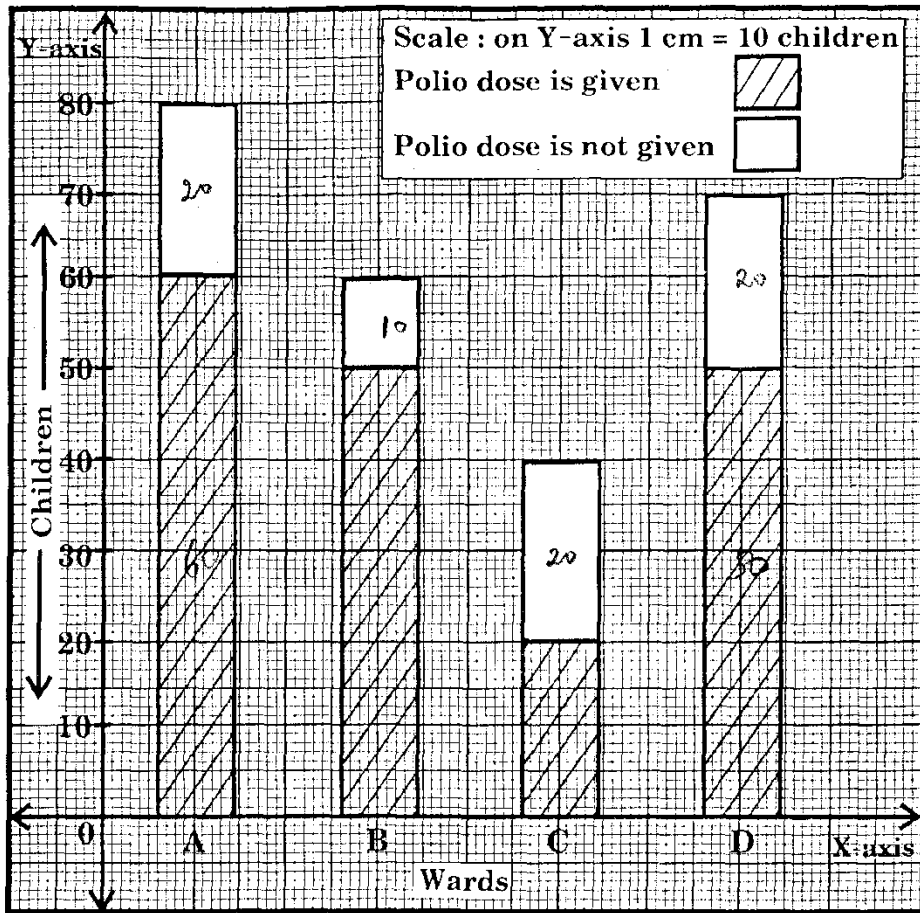
48. How many children did *not* get Polio dose ?

(1) 200   (2) 80

(3) 70   (4) 180

49. What will be the ratio of the children who have taken 'Polio dose' and staying in 'ward' A to that of the children from ward 'D' ?

(1) 6 : 5   (2) 5 : 2

(3) 2 : 5   (4) 5 : 6

50. By how much is the average of the natural numbers from 1 to 50 more than the average of the natural numbers from 1 to 25 ?

(1) 25.5   (2) 12.5

(3) 13   (4) 22.5

Space for Rough Work

51. Simplify $\dfrac{\left(\sqrt{x}\right)^{\frac{3}{5}} \times \left(\sqrt{x}\right)^{\frac{2}{5}} + 2\sqrt{x}}{2\left(\sqrt{x}\right)^{\frac{2}{3}} \times \left(\sqrt{x}\right)^{\frac{1}{3}} + \sqrt{x}}$. (Select two correct alternatives)

(1) $\left(\sqrt{x}\right)^{0}$

(2) 1

(3) $\left(\sqrt{x}\right)^{1}$

(4) $3\sqrt{x}$

52. The co-ordinate of point M on a number line is $\dfrac{2}{3}$. The distance between points M and N is 3 units. Find the co-ordinate of point N.

(Select two correct alternatives)

(1) $-\dfrac{7}{3}$

(2) $+\dfrac{11}{3}$

(3) $\dfrac{5}{3}$
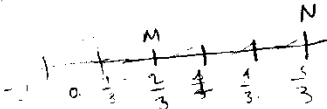
(4) $-\dfrac{1}{3}$

53. In a school, the number of girls in VIII B class is less by 20 than three times the number of boys in that class. If the total number of students is 68, find the number of girls in that class.

(1) 42

(2) 44

(3) 48

(4) 46

Space for Rough Work

$3x - 20 = y$

$3n - 20 = y$
$3n - y) = 20$
$+ \ n + y = 68$
$4n = \dfrac{88}{22}$

54. Read the following statements and select the correct option :

(A) 182 is divisible by 2

(B) 182 is divisible by 7

(C) 182 is divisible by 14

(1) Only (A) is correct

(2) Only (B) is correct

(3) (B) is wrong

(4) (A), (B), (C) are correct statements

55. Simplify $\dfrac{\sqrt{1.96} + \sqrt{2.25} + \sqrt{2.89}}{\sqrt{0.002116}} =$

(1) 10^2

(2) 10^{13}

(3) 10^{-2}

(4) 10^3

56. In the following figure line AB ∥ line CD. Transversal PR intersects line AB in point P and line CD in point R. Angle bisectors of one pair of interior angles intersect at point T. Find the measurement of ∠ PTR.
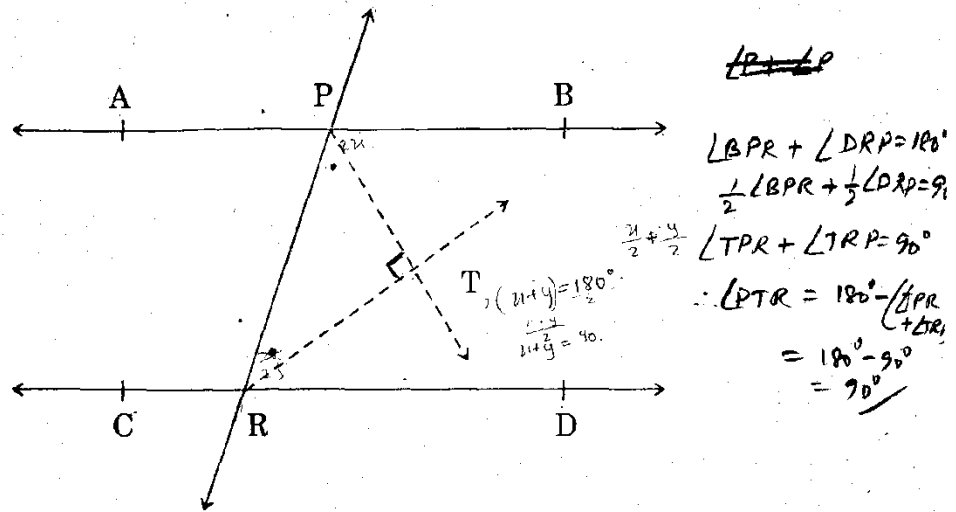
(1)   30°

(2)   45°

(3)   60°

(4)   90°

57. The rate of sugar was increased by 25% and as a result the sale decreased by 15%. What will be the overall effect on profit or loss in terms of percentage ?

(1)   5.25% loss

(2)   6.25% profit

(3)   7.25% profit

(4)   4.25% loss

58. Simplify :

$$\frac{(a^x)^{y-z} \times (a^y)^{z-x} \times (a^z)^{x-y}}{}$$

(1) a^{xyz}

(2)

(3) 1

(4) 0

59. The price of an article was increased by 20%. After some days the price was reduced by 20%. Whether the reduced price of the article is more or less than the original price ? By how many rupees ?
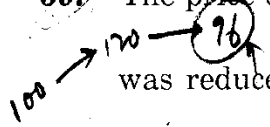
(1) less by Rs. 10

(2) more by Rs. 4

(3) less by Rs. 4

(4) no change in the price

60. The diagonal of a square is 7 cm. Find the length of the side of the square.

(1) $3\sqrt{2}$ cm

(2) $3.5\sqrt{2}$ cm

(3) $5\sqrt{2}$ cm

(4) $7\sqrt{2}$ cm

Space for Rough Work

0511—D

24 of 32

61. A cylindrical drum of radius 14 cm contains water. A solid cuboid having length 14 cm, breadth 11 cm and height 12 cm is dropped in the water. Find the increase in the water level of the drum.

(1)   3 cm

(2)   2.5 cm

(3)   2 cm

(4)   3.5 cm

62. The ratio of the supplementary angle and complementary angle of an angle is 13 : 4. Find the measure of that angle.

(1)   40°

(2)   50°

(3)   65°

(4)   85°

63. If the measure of a central angle is 135°, find the measure of the corresponding major arc.

(1)   270°

(2)   125°

(3)   135°

(4)   225°

Space for Rough Work

64. A car takes 6 hours to travel from one place to other. The car travels at an average speed of 50 km/hr. If the same car has to cover the same distance in four hours, then what should be the speed of the car ?

(1)   25 km/hr

(2)   40 km/hr

(3) $33\dfrac{1}{3}$ km/hr

(4)   75 km/hr

65. A shopkeeper purchased 50 dozen notebooks at the rate of Rs. 200 per dozen. All the notebooks were sold at the rate of Rs. 225 per dozen.

Find the percentage of profit in this transaction.

(1)   10.5%

(2)   11.5%

(3)   12.5%

(4)   14.5%

Space for Rough Work

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66. The radius of a circle with centre 'O' is 13 cm. The distance of a chord from the centre is 5 cm. Find the length of the chord.

(1)   24 cm

(2)   12 cm

(3)   13 cm

(4)   26 cm

67. The difference between the sum of prime numbers from 21 to 30 and the sum of composite numbers from 21 to 30 is divisible by which of the following numbers ?

(A)   3

(B)   7

(C)   151

(D)   17
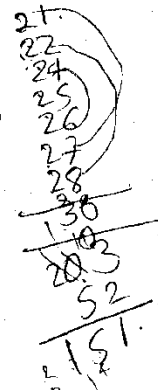
(1)   Divisible by (A) and (B)

(2)   Divisible by only (B)

(3)   Divisible by only (C)

(4)   Divisible by only (D)

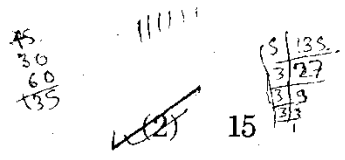**Space for Rough Work**
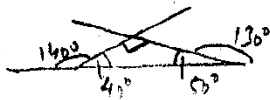
68. The measures of exterior angles of a triangle are 140° and 130° respectively. Which type of triangle is it ?

(1) Acute angled triangle   (2) Obtuse angled triangle

(3) Right angled triangle   (4) Equilateral triangle

69. 45 girls of Std. VI, 30 girls of Std. VII and 60 girls of Std. VIII have to stand on the ground in different rows for the drill. The girls have to stand in such a way that the number of girls in each row should be same. Find the maximum number of girls that can stand in each row.
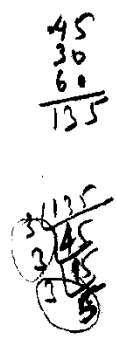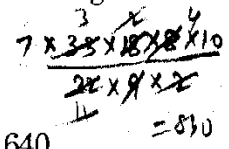
(1) 12

(2) 15

(3) 18

(4) 20

70. How many solid coins of 6 cm diameter and 0.2 cm thickness can be made by melting a solid metal cuboid of length 33 cm, breadth 18 cm and height 8 cm ?

(1) 540

(2) 640

(3) 740

(4) 840

Space for Rough Work

71. Shobhatai purchased a scooter for Rs. 55,000. If its value decreases by 8% per year, how much amount will she get if she sells it after 2 years ?

(1) Rs. 46,552

(2) Rs. 64,152

(3) Rs. 61,452

(4) Rs. 43,525

72. The frequency table of the heights of 20 children in a class is given below. Find the mean of their height.

Height (in cm)	Frequency
151	7
153	4
155	6
157	3

(1) 154 cm

(2) 153.5 cm

(3) 153 cm

(4) 154.5 cm

Space for Rough Work

73. A pit 8 m long, 5 m broad and 1.5 m deep is dug in the ground. The soil so dug is evenly spread over a rectangular plot 25 m long and 16 m broad. Find the thickness of the layer of the soil spread over the rectangular plot. (Select two correct alternatives)

(1) 0.15 m

(2) 15 cm

(3) 0.015 cm

(4) 1.50 m

74. Which term should be added to the algebraic expression $64x^2 + \dfrac{y^2}{25}$ to make it a perfect square. (Select two correct alternatives)

(1) $\dfrac{16}{5}xy$

(2) $-\dfrac{16}{5}xy$

(3) $\dfrac{+8}{5}xy$

(4) $-\dfrac{8}{5}\dfrac{x}{y}$

75. Find the value of :

$$\dfrac{0.36 \times 0.27 \times 0.001}{0.06 \times 0.03 \times 0.100} = ?$$

(1) 5.4

(2) 5.04

(3) 54

(4) 540

Space for Rough Work