Seat No.

0 5 1 1

Set **A**

Paper No. **I**   **Medium : English**   Time : 11:00 to 12:30

Pages : 16   **First Language and Mathematics**   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 **1** to **25** questions of First Language and in Section **II** there are **26** to **75** questions of 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 and shade the correct answer in the answer sheet.
      Example :- If the correct alternative for Q. No. **6** is **2**, then record you answer as follows :
      Question No. **6 -** ① ● ③ ④

(5)   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'**.
      For Example :- If the correct alternative for Q. No. 8 is 2 & 3, then record your answer as follows : Question No. **8 -** ① ● ● ④

(6)   Answer recorded in any other form will not be considered. Such answer will be credited with 'Zero' mark. ① ② ● ④

(7)   Use blue or black ball pen to darken the circle. Circles darkened by pencil will not be credited.

(8)   Answer once recorded can not be changed.

(9)   The rough work is to be done in the space given under each page or on the last page of the question paper.

(10) 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.

(11) If you find any question incomplete or with error, then do not ask anything to the Supervisor or Centre Incharge.

(12) 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.

(13) The error / mistake / objection issues should be register online within 10 - days from the publication of Interim answer key on MSCE website.

(14) Suggestion & decision of expert committee will be applicable on printing or any other mistake in question paper.

English

Instruction for the Q. 01 to Q. 03

Read the following extract and answer the questions:

Education as Mahatma Gandhi described it, "is the tool for the development of consciousness and reconstitution of society." Since Independence, India has stressed reforming and restructuring the educational system as part of state intervention. The National Policy on Education (NPE), 1986, which is hailed as a landmark in the Indian educational system, provided a comprehensive framework to guide the development of education in the country. The NPE and its programme of action was again updated in 1992 through similar consensual process involving all the state governments, resource organisations and educationists. What has been worrying the critics and educationists alike is the non fulfilment of one of the NPE objectives : education of girls. It has been stated in the NPE that the 'Education for all' meet should have a strong gender focus as education for all by definition is gender inclusive.

01.   In the passage, the author makes a plea for ....
      (1)   Free education   (2)   Universal education
      (3)   The education of men   (4)   The education of girls

02.   According to the passage, critics and educationists are worried that :
      (1)   One of the objectives of NPE has not been fulfilled
      (2)   Many objectives of NPE have not been fulfilled.
      (3)   The education of girls is one of the objectives of NPE
      (4)   Non-fulfilment of NPE leads to the education of girls.

03.   Complete the following sentence:
      The National Policy on Education provided ....
      (a)   Guidelines for the comprehension of education in the country.
      (b)   A comprehensive framework for the development of education in the country.
      (c)   Guidance material to develop education in the country.
      (d)   Comprehensive development of education.
      (1)   a and b   (2)   only b   (3)   a and d   (4)   only d

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SPACE FOR ROUGH WORK

Instruction for the Q. 04 to Q. 06

    Read the following poem and answer the questions given below it:

If you've tried and have not won,
Never stop for crying ;
All's that's great and good is done
Just by patient trying.

Though young birds, in flying, fall,
still their wings grow stronger;
And the next time they can keep
Up a little longer.

Though the strudy oak has known
Many a blast that bowed her,
She has risen again, and grown
Loftier and prouder.

If by easy work you beat,
Who the more will prize you?
Gaining victory from defeat
That's the test that tries you!

04. Which of the following pair is not in the adjective form?
    (a) Victory   (b) Loftier   (c) stronger   (d) defeat
    (1) a and c   (2) b and d   (3) a and d   (4) c and d

05. Complete the following line by selecting the correct alternative from the following:
    All's that's great and good is done
    Just by ....
    (1) gaining victory   (2) flying high
    (3) growing loftier   (4) patient trying

06. Choose the correct alternative of the meaning of the phrase 'has known many a blast' from the poem.
    (1) has taken many explosive operations.
    (2) has survived many blows of stormy winds.
    (3) is responsible for many blasts
    (4) explosive talks

SPACE FOR ROUGH WORK

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07. Which pair of words from the following is not suitable in the given word register.

    a)   bustard   b)   crane   c)   pigeon   d)   predators

    e)   larks   f)   grass

    (1)   a and c   (2)   a and f   (3)   d and e   (4) d and f

08. Choose two correct options of adverb clause.

    (1)   He is so brilliant that he can solve any example.

    (2)   She visited the village where she was born.

    (3)   Work hard so that you can achieve success.

    (4)   The news that he stood first class first spread everywhere.

09. Choose the correct alternative of synonym of the given word 'preposterous'

    a)   absurd

    b)   completely unreasonable

    c)   skillfully, without doing anything wrong

    d)   surprising fact that was previously a secret and is now known.

    (1)   a and d   (2)   b and c   (3)   a and b   (4) b and d

10. Choose the correct equivalent in passive voice of the given sentence:

Who is creating this mess?

    (1)   By whom is this mess being created?

    (2)   Who has created this mess?

    (3)   By whom has this mess been created?

    (4)   By whom this mess was being created?

11. Find out what the following abbreviation stand for : MIP

    (1)   Moon Impression probe   (2)   Moon Impact probe

    (3)   Moon Impact propellant   (4)   Moon Impression propellant

12. Choose the option from the following that contains correct reported speech:

John said, ''That's the job you are offering me?''

    (1)   John asked whether that was the job he was offered

    (2)   John asked whether that is the job he is offered

    (3)   John said that this was the job she was offering him

    (4)   John asked if that was the job she was offering him

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SPACE FOR ROUGH WORK

Instruction for the Q. 13 and Q. 14

Read the following dialogue and answer the questions given below:

Mother : .....! .... you can taste the goodness of fresh vegetables!

Daughter : Yes, Unbelievable. No one would think that this soup was made with a stone!

Son : You've said it. Such delicious vegetable soup and made with a stone!

Daughter : I wonder what happens to the stone? Does it melt away?

Mother : Oh, no! ....

13. Choose the most appropriate interjection for the following dialogue.
    Mother : .....! .... you can taste the goodness of fresh vegetables!
    (1) How! astonishing!   (2) Ah! Wonderful !
    (3) Oh ! No !   (4) Alas ! Very bad !

14. Complete the last sentence of the given dialogue with most appropriate response:
    Mother : Oh, no! ....
    (1) It melts down   (2) It breaks into pieces
    (3) It remains the same   (4) None of the above

15. Choose the correct option that represents positive degree of comparison of the given sentence:
    Mumbai is one of the richest cities in India
    (1) Very few cities in India are as rich as Mumbai
    (2) Very few cities in India are rich than Mumbai
    (3) No other city in India is as rich as Mumbai
    (4) Very few cities in India are not as richer as Mumbai

16. Identify which of the following is a complex sentence :
    (1) My brother came and handed over money to me
    (2) She is intelligent but her sister is dull.
    (3) In spite of many failures he hopes to succeed
    (4) Young persons should realize what they can do for the country.

17. Choose the correct question tag for the given sentence :
    You didn't cause much damage to the book, ...?
    (1) didn't you   (2) do you   (3) did you   (4) don't you

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SPACE FOR ROUGH WORK

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18. Match the following :

Sr. No.	Column A	Column B
1.	Bazaar	a) Horse cart
2.	Sant	b) Fort
3.	Killa	c) Market
4.	Tonga	d) Saint

(1) 1 - d, 2 - c, 3 - a, 4 - b   (2) 1 - c, 2 - d, 3 - b, 4 - a

(3) 1 - a, 2 - b, 3 - c, 4 - d   (4) 1 - c, 2 - b, 3 - d, 4 - a

Instruction for the Q. 19 and Q. 20

Study the advertisement and answer the questions:

ENERGY FAIR

Informing the citizens on energy saving and renewable energy for a smarter and brighter future ......

5th and 6th May 2017.

* Guidance session by experts
* Informative power point presentation
* Activities for children
* Discussion session

Venue :

Yash Lawns, KBT Road, Delhi

Free Entry !

19. What is the theme of the given advertisement?

(1) Importance of energy saving   (2) Health

(3) Importance of renewable energy   (4) Hygiene

20. Energy fair is putting emphasis on what type of energy?

(1) Renewable energy   (2) Atomic energy

(3) Non renewable energy   (4) Artificial non-renewable energy

SPACE FOR ROUGH WORK

Instruction for the Q. 21 and Q. 22
Read the following report and answer the question given below:

With crackers bursting amid dazzling illuminations, Kali Pooja was celebrated in Kolkata on Wednesday. Decorative lamps glittered inside the community - Pooja pandals and candles were lit in almost every house, adding to the grandeur. Though the Pooja was offered around midnight, the festive mood was visible from the evening. According to the police 2372 community Pooja were held this year in the city. Streams of people visited the attractive pandals in the evening. There was a staggering crowd at Kalighat, Dakshineshwar, Belurmath and Thanthania Kalibari. Some of the community Pooja in the city had novel pandal and image designs.

21. Which of the following is not a correct option for writing a report?
    (1) It should be written in Indirect - speech
    (2) A report should be written in simple and graceful language
    (3) A report can have personal views and comments of the writer
    (4) It should sum up the total information.

22. Find the places related to a staggering crowd for 'Kali Pooja'?
    (1) Dakshineshwar, Belur Ghat   (2) Kalighat, Dakshineshwar
    (3) Rameshwar, Kalighat   (4) Belurmath, Thanthania Kalibari

23. Choose the correct alternative of the suitable preposition in the following sentence:
    They had resorted .... a very aggressive play.
    (1) to   (2) with   (3) for   (4) in

24. Fill in the blank with the correct alternative of the appropriate tenses:
    All the day before, it .... heavily.
    The entire field .... water - logged.
    a) had rained   b) had become
    c) have rained   d) have become
    (1) had rained, have become   (2) have rained, had become
    (3) have rained, have become   (4) had rained, had become

25. Pick out the correct alternative expressing the meaning of the underlined phrase:
    What is <u>on the carpet</u> these days is in the news.
    (1) to be in tune   (2) to be under consideration
    (3) to come home to   (4) to break the news

SPACE FOR ROUGH WORK

MATHEMATICS

26. $\dfrac{1}{a-b} + \dfrac{1}{b-a} = ?$

(1) $\dfrac{1}{a+b}$ (2) $\dfrac{(a-b)+(a-b)}{(a-b)(b-a)}$ (3) 1   (4) 0

27. The LCM of two co-prime numbers is 910 and their sum is 83. What will be the difference between the two numbers?

(1) 57   (2) 60   (3) 81   (4) 75

28. Two right angled scalene triangles are joined along their hypotenuse. Which of the following figures will be formed? [Select two correct options]

(1) Rhombus   (2) Kite   (3) Rectangle   (4) Trapezium

29. 60 l. milk contains 15% fats and 40 l. milk contains 8% fats. If these two milk are mixed together, then what will be the % of fats contained in the mixture?

(1) 87.8 %   (2) 12.2 %   (3) 1220 %   (4) 122 %

30. Find the value of : $\dfrac{27^{\frac{1}{3}} \times 36^{\frac{1}{2}} \times 81^{\frac{1}{4}}}{25^{\frac{1}{2}} \times 400^{\frac{1}{2}}}$

(1) 64   (2) 5.4   (3) 0.54   (4) 0.064

31. In a circle, the measure of a major arc is 60° more than double the measure of its minor arc. What will be the measure of its major arc?

(1) 100°   (2) 300°   (3) 220°   (4) 260°

32. Write the degree of the product of $(x^3 - 27)(x^2 + 2x + 2)$

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

SPACE FOR ROUGH WORK

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33. Which of the following options indicate the volume of a sphere?

(1) $\frac{1}{3} \times 2\pi r^3$ (2) $\frac{r}{3} \times 4\pi r^2$ (3) $\frac{4}{3} \times r^3$ (4) $\frac{4\pi}{3} \times r^2$

34. Rohit purchased a 3 year old used machine from Mohit for Rs. 8,57,375. If the rate of depreciation is 5%, for how much did Mohit must have bought the machine ?
(1) Rs. 10,00,000   (2) Rs. 12,00,000
(3) Rs. 8,00,000   (4) Rs. 9,00,000

35. Which of the following are the factors of a trinomial ?
$(a - b)^2 - 17 (a - b) - 60$?
(1) $(a - b - 12) (a - b + 5)$ (2) $(a - b + 12) (a - b - 5)$
(3) $(a - b + 20) (a - b - 3)$ (4) $(a - b - 20) (a - b + 3)$

36. $(3x + 7)$ is an even number. What will be the square of 'x' from the following options?
(1) Odd number   (2) Even number
(3) Prime number   (4) Twin prime number

37. Abdul covered $\frac{2}{5}$th distance between the towns A and B by car and $\frac{1}{2}$ the distance by bus. Still town B is 15 km away. What may be the distance between the town A and B ?
(1) 105 km   (2) 450 km   (3) 75 km   (4) 150 km

38. The capacity of a bucket is 10 l. If it is to be filled to its full capacity, how many bottle of 1.25 l will have to be emptied in it?
(1) 8 bottles   (2) 80 bottles   (3) 10 bottles   (4) 100 bottles

39. If a supplementary angle of an angle's complementary angle is 108°, find the measure of the angle.
(1) 72°   (2) 18°   (3) 98°   (4) 198°

SPACE FOR ROUGH WORK

40.
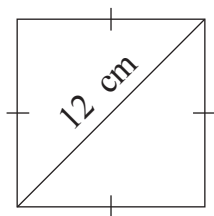
In the adjoining figure, the diagonal of a square is $12\,cm$. Find the length of every side.

(1) $\dfrac{6}{\sqrt{2}}$ cm   (2) 6 cm

(3) $12\sqrt{2}$ cm   (4) $6\sqrt{2}$ cm

41. $(0.3)^2 + (0.1)^2 - (0.2)^2 = ?$ (Select two correct options)

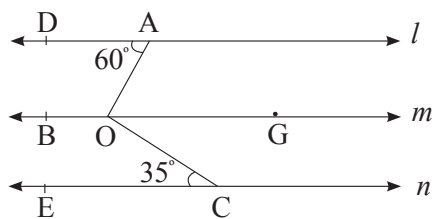(1) 0.6   (2) $(0.36)^{1/2}$ (3) $\sqrt{0.0036}$ (4) 0.06

42.
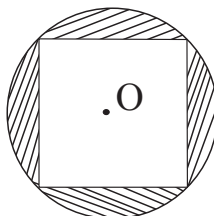
Four vertices of a square lie on the circle as shown in the figure. The center of the circle is 'O' and radius is 7cm. Find the area of the shaded portion.

(1) 54 sq. cm   (2) 55 sq. cm

(3) 56 sq. cm   (4) 57 sq. cm

43.

In the adjoining figure, l, m, n are parallel lines. $m\angle$ DAO $= 60°$ $m\angle$ OCE $= 35°$, then $m\angle$ AOC $= ?$

(1) 25°   (2) 95°

(3) 85°   (4) 105°

44. Which of the options given below are incorrect statements? (Select two correct alternatives)

(A) A ray has a midpoint.

(B) A line has a midpoint.

(C) Chord of a circle has a midpoint.

(D) Perpendicular bisector of a line segment passes through its midpoint.

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

45. Which of the following terms, when added to the binomial $1 + 64\,a^2b^2$, will make it a perfect square? [Select two correct alternatives]

(1) $16\,ab$ (2) $8\,ab$ (3) $-8\,ab$ (4) $-16\,ab$

SPACE FOR ROUGH WORK

46.
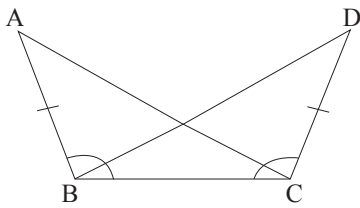
By which of tests, Δ ABC and Δ DCB from the given figure will be congruent?
(1) SSS test (2) SAA test
(3) ASA test (4) SAS test

47. Find the ratio of x and y, if a number is 20% of 'x' and another is 25% of 'y'.
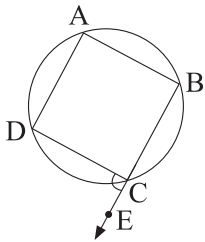(1) 5 : 4 (2) 4 : 5 (3) 2 : 3 (4) 3 : 2

48. The weight of 20 students from a class is given in the frequency table. Find the mean of their weights. (Select two correct alternatives)

Weights of the students (in kg)	Frequency (f)
20	11
21	8
22	1

(1) 20 kg 50 gm (2) 20.5 kg
(3) 20.05 kg (4) 20 kg 500 gm

49.

☐ ABCD is a cyclic quadrilateral. Point E lies on the ray BC as B − C − E. If $m\angle$ DCE = 95°, then $m\angle$ DAB = ?
(1) 85° (2) 95°
(3) 190° (4) 170°

50.
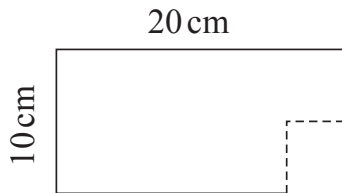
From a rectangular thermocol sheet with dimension 20 cm × 10 cm, a rectangular piece of 2 cm × 5 cm dimension is cut. Which of the following sentences will be correct for the thermocol sheet?

(1) Perimeter will increase (2) Perimeter will decrease
(3) Perimeter will remain same (4) Perimeter will get doubled

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SPACE FOR ROUGH WORK

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51. Find the incorrect statement from the following:
(a) Every prime number is a natural number.
(b) Every rational number is a real number.
(c) Sum of any two prime numbers is an even number.
(d) HCF of twin prime numbers is 1.
(1) a   (2) b   (3) c   (4) d

52. In the figure, line l and m intersect in point O. Find the value of 'y'.
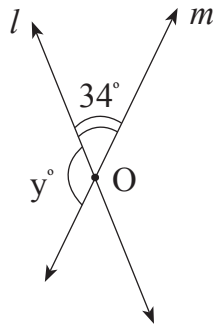
(1) 164°   (2) 56°   (3) 34°   (4) 146°

53. Read the following statements and select the correct alternative. (Two correct options)
(A) The numbers divisible by 3 and 4 are divisible by 8.
(B) All numbers that are divisible by 2 and 9 are divisible by 18.
(C) The numbers divisible by 6 and 10 are divisible by 2.
(1) Statement 'A' incorrect   (2) Statements 'B' and 'C' are correct
(3) Statements 'A' and 'B' are correct   (4) Statement 'C' incorrect

54. Which of the following conditions should be given to make the total surface area of a sphere and cylinder to be equal?
(1) Diameter of a sphere should be equal to the radius of a cylinder.
(2) Radius and height of a cylinder is equal to the radius of a sphere.
(3) Radius of a cylinder should be double the radius of sphere.
(4) Height of a cylinder should be equal to the diameter of the sphere.

SPACE FOR ROUGH WORK

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55. A fruit seller purchased 48 dozen bananas at the rate of Rs. 48 per dozen. 1 dozen bananas were spoiled. He sold the remaining bananas at Rs. 72 per dozen. How much profit or loss did he incurr in this transaction?
(1) Rs. 1080 loss
(2) Rs. 1080 profit
(3) Rs. 72 loss
(4) Rs. 48 profit

56. In a cuboid shape tank, water is being poured from the tap at the rate of 60 l/min. The capacity of the tank is 108 cu.m. How much time will be required to fill the tank to half of its capacity?
(1) 10 hrs.
(2) 3 hrs.
(3) 30 hrs.
(4) 15 hrs.

57. What will be the compound interest on Rs. 30,000 at the rate of 12% p.a. in $1\frac{1}{2}$ years?
(1) Rs. 5400
(2) Rs. 6516
(3) Rs. 5696
(4) Rs. 5616

58. Using the digit only once, from one digit prime number form the greatest and smallest 4 digit number. Which of the following options will not divide the difference between these numbers completely?
(1) 3
(2) 5
(3) 9
(4) 7

59. Which of the following options is not a pythagorean triplet?
(1) (3, 4, 5)
(2) (7, 24, 25)
(3) (8, 15, 17)
(4) (5, 13, 14)

60. What is the product of two integers between which $\dfrac{-119}{13}$ lie?
(1) 65
(2) 90
(3) -72
(4) $+72$

61. $\dfrac{(169)^2-1}{(13)^2-1}$ = How much?
(1) 171
(2) 168
(3) 169
(4) 170

62. I had to give Rs. 7 change to Rickshaw uncle. I had enough coins of Rs. 1, Rs. 2, Rs. 5. Then in how many ways can I pay him?
(1) 6 ways
(2) 3 ways
(3) 5 ways
(4) 4 ways

SPACE FOR ROUGH WORK

63. The average age of Ria and her 4 friends is 24 years. Their ages are $(3m - 2)$, $(2m + 7)$, $(4m - 7)$, $(3m)$, $(3m + 2)$ respectively. Find the value of 'm'

(1)   7   (2)   9   (3)   8   (4)   5

64. As the rate of ticket of a play increased by 25%, the sale reduced by 15%. What is the rise or fall in the total income?

(1)   6.25 % rise   (2)   6.25 % fall   (3)   12.5 % rise   (4)   12.5 % fall

65. Which of the following are the factors of $(a^3 - 8b^3)$?

(1) $(a - 2b) (a^2 - 2ab + 4b^2)$ (2) $(a - 2b) (a^2 - 2ab - 4b^2)$

(3) $(a - 2b) (a^2 + 2ab + 4b^2)$ (4) $(a - 2b) (a^2 + 2ab - 4b^2)$

66. The length, breadth and height of a cuboid is 'l' cm 'b' cm, 'h' cm. If $lb = 60$ sq. cm, $bh = 24$ sq. cm, $hl = 40$ sq. cm, then find the volume of cuboid.

(1)   248 cu.cm   (2)   240 cu.cm   (3)   600 cu.cm   (4)   420 cu.cm

67. Solve the equation and find the value of x, : $\dfrac{x - 5}{5} + \dfrac{x + 2}{2} = 0$

(1)   0   (2)   0.7   (3) $\dfrac{10}{7}$ (4) $\dfrac{13}{2}$

68.

A semicircle is drawn over a diameter. The circumference of the semicircle is 72 units. $l(BC) = l(AO) = l(OC)$. Find the perrimeter of $\triangle$ ABC.

(1) $42 + 14\sqrt{3}$ units   (2) $56\sqrt{3}$ units

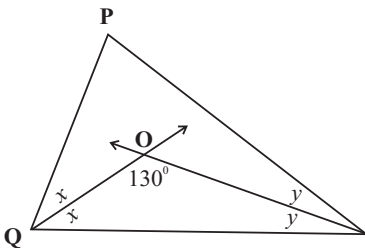(3) 56 units   (4) $42\sqrt{3} + 14$ units

69. Which of the following options is the co-efficient form of the polynomial $(x^5 - 4x)$?

(1) $(1, -4)$ (2) $(1, 0, 0, 0, -4, 0)$

(3) $(1, 0, 0, 0, -4)$ (4) $(1, 0, 0, 0, 4)$

SPACE FOR ROUGH WORK

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70. Sureshrao sold an article for Rs. 1962 and earned a profit of 9%. What was the cost price of that article?

(1) Rs. 1900   (2) Rs. 1850   (3) Rs. 1950   (4) Rs. 1800

71. $m \propto \dfrac{1}{n}$ If $m = 30$ then $n = 5$. Write the equation of variation.

(1) $m = 6\ n$ (2) $mn = 150$ (3) $n = 150\ m$ (4) $mn = 6$

72.

In Δ PQR, angle bisectors of $\angle$ Q and $\angle$ R intersect at point O. $m\angle$ O $= 130°$, $m\angle$ P $= ?$

(1) 50°   (2) 100°

(3) 80°   (4) 130°

73. A farmer purchased a pump at Rs. 6600 after getting a discount of 12% on the printed price. What might be the printed price of the pump?

(1) Rs. 7500   (2) Rs. 6500   (3) Rs. 5700   (4) Rs. 8500

Instructions for the Q.74 and Q.75

The sale and purchase of a merchant for the year 2017 for 3 months is shown through a bar graph.

Observe it and answer the questions.
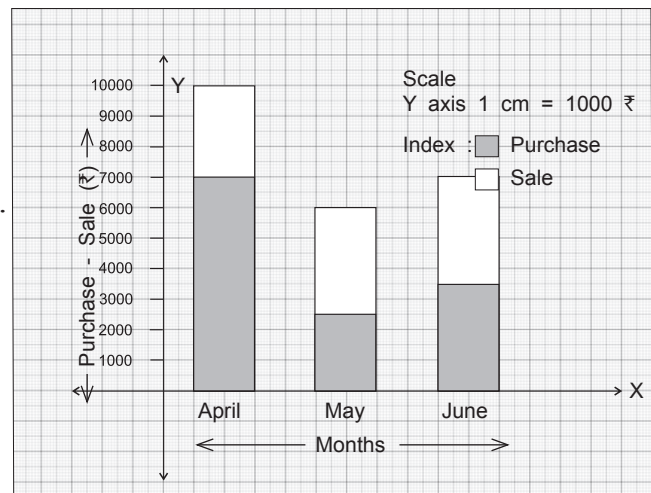
74. What type of bar graph is it?

(1) Divided bar graph

(2) Joint bar graph

(3) Percentage bar graph

(4) Simple bar graph

75. Find the ratio of total purchase to total sale for the three months.

(1) 7 : 3   (2) 10 : 13   (3) 13 : 10   (4) 7 : 5

SPACE FOR ROUGH WORK