ALL INDIA SAINIK SCHOOLS ENTRANCE EXAMINATION: 2011

PAPER- MATHEMATICS, GK, LANGUAGE AND INTELLIGENCE TEST

CLASS- VI

TIME: 2 hrs. 30 minutes   Max. Marks: 300

Instructions

1. This question paper contains FOUR sections and you have to answer all questions in the OMR answer sheet section "A" Mathematics contains 50 questions of 3 marks each, Section "B" GK, Section "C" Language and "D" Intelligence contains 25 questions of 2 marks each respectively. Section C is language specific and is to be attempted in the chosen language.

2. There is only one correct answer for each question. Darken only one bubble for each question. If you darken more than one bubble, your answer will be treated as wrong.

3. Evaluation of OMR answer sheet will be done on a computer. Be careful and ensure no unnecessary marks on the OMR answer sheet / fold or attempt to deface the OMR answer sheet, otherwise it will not be evaluated.

4. Rough work must be done on the additional sheet only and NOT on OMR answer sheet.

5. There are total 32 pages in the question paper.

PAPER – I MATHEMATICS AND LANGUAGE

PART – A : MATHEMATICS

Section – I

1. find the sum of two numbers if one number is 41628 and the other number is 1235 greater than the first number.

   Ans. One number = 41628

   Other number = 41628 + 1235 = 42863

   Sum of the numbers = 41628 + 42863 = 84491

2. arrange the numbers in ascending order – 631997, 514245, 51437, 631460.

   Ans. 51437, 51425, 631460, 631997.

3. The side of a square is 8m. the same square is divided into four equal squares. Find the area of the square.
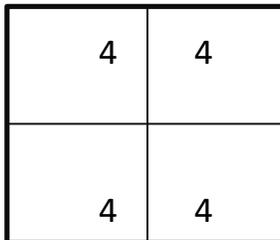
   Ans. Side of a square = 8m.

8m

Area of square = 8 ×8 = 64m^2

It is divided into four equal parts

| 4 | 4 |
| 4 | 4 |

Area of each square = 16m^2

4. The prime factors of 216 and 90.

Ans.

2	216
2	108
2	54
3	27
3	9
3	3
	1

Prime factors of 216 = $2^3 \times 3^3$

2	90
3	45
3	15
5	5
	1

Prime factors of 90 = $3 \times 3 \times 2 \times 5$

5. Find the value of $11\frac{1}{5} \div 6\frac{1}{10}$

Ans. $11\frac{1}{5} \div 6\frac{1}{10} = \frac{56}{5} \div \frac{61}{10}$

$= \frac{56}{5} \times \frac{10}{61} = \frac{112}{61} = 1\frac{51}{61}$

6. Find 10% of 95.

Ans. 10% 0f 95 = $\frac{10}{100} \times 95 = \frac{19}{2} = 9.5$

7. A train starts from delhi at 9.15 pm and reaches jammu tawi next day at 11.30 am. Find the total time taken by the train.

Ans. Total time taken by the train

= 12hrs + 2hrs 15min. = 14hrs 15min.

8. The weight of 25 bags of sugar is 625 kg. find the weight of 35 bags of the sugar.

   Ans. Weight of 25 bags of sugar = 625 kg

   Weight of 1 bag of sugar = $\frac{625}{25}$kg

   Weight of 35 bags of sugar = $\frac{625}{25} \times 35$

   = $25 \times 35 = 875$ kg.

9. Find the LCM of 75, 90, 125

   Ans.

5	75, 90, 125
5	15, 18, 25
3	3, 18, 5
	1, 6, 5

   LCM = $5 \times 5 \times 3 \times 6 \times 5 = 2250$

10. Find the perimeter of rectangle of length 60cm and breadth 30cm.

    Ans. Perimeter of rectangle = 2(l + b)

    = 2(60 + 30) = 2 X 90 = 180cm.

Section – II

11. simplify : $16 - \left[4 \div 2 \left\{6 - \left(8 \, of \, \frac{1}{2}\right)\right\}\right]$.

    Ans. $\left[16 - 4 \div 2 \left\{6 - \left(8 \, of \, \frac{1}{2}\right)\right\}\right]$
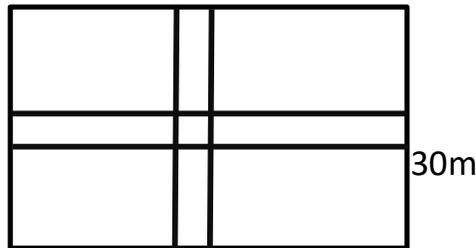
    $= \left[16 - 4 \div 2 \left\{6 - 4\right\}\right]$

    $= \left[16 - 4 \div 2 \times 2\right]$

    $= 16 - 4 = 12.$

12. A rectangular lawn is40m by 30m. it has two roads of 2m wide running in the middle one parallel to the length and the other parallel to the breadth. Find the area of the roads.

Ans.

40m

Area of the road = 40 × 2 + 30 × 2

= 80 + 60 = 140 m^2 = 140 − 4 = 136 m^2

13. A pit of 50 meter long, 40 meter wide and 1 meter deep is dug. Find the volume of earth dug out from the pit.

Ans. Volume of earth dug out from the pit

= $l \times b \times h$ = 50 × 40 × 1 = 2000 m^3 .

14. Find the area and circumference of a circle with diameter 14cm.

Ans. Diameter of circle = 14 cm

∴ radius of circle = 7 cm

Circumference = $2\pi r$ = 2 × $\frac{22}{7}$ × 7 = 44 cm.

Area of circle = πr^2 = $\frac{22}{7}$ × 7 × 7 = 154 cm^2.

15. An angle is twice of its complement . find the measures of the angle and its

Complement.

Ans. $X + 2x = 90°$

$\qquad 3x = 90°$

$\qquad X = 30°$

$\qquad$ Its complement = $2 \times 30 = 60°$

16. The LCM of two numbers is 1080 and their HCF is 18. One of the numbers is 216, find the other numbers.

Ans. Other number = $\dfrac{LCM \times HCF}{One\ number} = \dfrac{1080 \times 18}{216} = 90.$

17. Asha can finish a work in 15 days . the same work is finished by nirmala in 12 days. In how many days both of them will finish the work while working together ?

Ans. Asha can finish a work in 15 days

Asha's one day work is = $\dfrac{1}{15}$

Nirmala can finish the same work in 12 days

Nirmala's one day work is = $\dfrac{1}{12}$

(asha's + nirmala's) one day work

$\qquad = \dfrac{1}{15} + \dfrac{1}{12} = \dfrac{4+5}{60} = \dfrac{9}{60}$

$\therefore$ they can do the work in $\dfrac{60}{90}$ days.

$\qquad\qquad\qquad = 6\dfrac{2}{3}$

18. A carpenter bought 6 chairs for Rs.90 each he spent Rs. 10 on each chair for painting . he then sold all the six chairs for Rs. 795. Find his profit or loss.

Ans. CP of 6 chairs = 100 × 6 = Rs.600

SP of 6 chairs = Rs.795

Profit = SP − CP = 795 − 600 = Rs.195.

19. Write true or false for the following statements

(a) a cylinder has two curved surfaces and one flat base.

(b) a cone has two curved surfaces and one flat base.

(c) a sphere has no flat faces.

Ans. (a) false

(b) false

(c) true

20. In the following pictograph the number of students liking various sports have been represented :

Scale = 5 students

cricket ☺☺☺☺☺☺☺

football ☺☺☺☺☺

kabbadi ☺☺☺☺☺☺

Kho – kho ☺☺☺☺☺☺☺☺

With the help of this answer the following questions

a. which is the most favourite game of the students?

b. how many students like cricket?

c. what is the difference between the number of students liking kho-kho and kabaddi?

Ans. 🙂 Scale = 5 students

Cricket 🙂🙂🙂🙂🙂🙂🙂

Football 🙂🙂🙂🙂🙂

Kabaddi 🙂🙂🙂🙂🙂🙂

Kho – kho 🙂🙂🙂🙂🙂🙂🙂🙂

a. kho –kho

b. 40

c. 15.

Section – III

21. Sahil scored 95 marks out of 150 and ankit scored 180 marks out of 250. Whose score is higher?

Ans. % marks of sahil = $\frac{95}{150} \times 100 = \frac{190}{3} = 63.33\%$

% marks of ankit = $\frac{180}{250} \times 100 = 72\%$

∴ ankit score is higher.

22. jatin borrowed Rs.4500 at 12 paise for every rupee per annum . after 3 years he returned Rs. 4000and a wrist watch. Find the cost of wrist watch ?
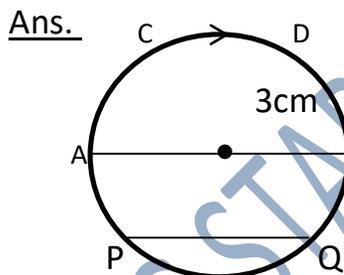
<u>Ans.</u> SI = $\frac{P \times r \times t}{100} = \frac{4500 \times 12 \times 13}{100}$ = Rs. 1620

Amount = P + SI = 4500 + 1620 = Rs. 6120

∴ cost of the wrist watch = 6120 − 4000 = Rs. 2120.

23. Draw a circle with radius 3cm and mark.

(a) its centre O

(b) diameter AB

(C) an arc CD

(d) a chord PQ.

<u>Ans.</u>

24. A, B and C have a total of Rs. 1500. The ratio of money between A and B is 4:5 . if C has Rs. 600, calculate the shares of A and B .

<u>Ans.</u> 1500 − 600 = Rs. 900

Let A has Rs. 4x and B has Rs. 5x

4x + 5x = 900

9x = 900

X = 100

∴ A has 4 × 100 = Rs. 400

B has 5 × 100 = Rs.500.

25. What is the greatest 6 digit number which s exactly divisible by 24, 15 and 36?

    Ans. The greatest number of 6 digits = 999999

    L.C.M of 24, 15 and 36 = 360

    999999 ÷ 360 then we get remainder = 279

    9999999 → 279 = 999720

    ∴ required number = 999720.

26. By selling a bedsheet of Rs.75, a man suffers 4% loss. What amount should he sell it so as to gain 20% profit?

    Ans. SP = Rs.75

    Loss = 4%

    Let CP = Rs.100

    SP = 100 − 4 = Rs.96

    When SP Rs.96 then CP = 100

    When SP Rs.75 then CP

    $= Rs.\dfrac{100}{96} \times 75 = Rs.\dfrac{625}{8} = Rs.78.125$

    Again 100 + 20 = 120

    When CP Rs.100 then SP = Rs.120

    When CP Rs.$\dfrac{625}{8}$ then

    $SP = Rs.\dfrac{120}{100} \times \dfrac{625}{8} = Rs.\dfrac{375}{4} = Rs.93.75$

27. a = 2, b = 3 and c = 4 find the value of

    (a) ab + bc

    (b) $\dfrac{a(b+c)}{b(a+c)}$

Ans. Given that a = 2, b = 3 and c = 4

(a) then value of ab + bc

= 2(3) + 3(4) = 6 + 12 = 18

(b) $\frac{a(b+c)}{b(a+c)} = \frac{2(3+4)}{3(2+4)} = \frac{14}{18} = \frac{7}{9}$

28. Chalk box measures 7cm in length, 5cm in breadth and 3cm height. How many chalk boxes can we placed in a box whose length breadth and height are respectively 49cm, 25cm and 59cm?

Ans. Number of chalk boxes

$= \frac{49 \times 25 \times 15}{7 \times 5 \times 3}$ = 7 × 5 × 5 = 175.

29. Find average of 12 numbers if the average of first 8 numbers is 21 and the average of the last 4 number is 18.
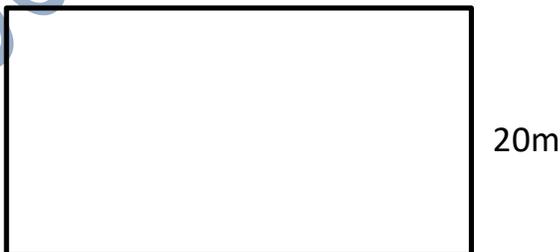
Ans. Total number of first 8 numbers

= 21 × 8 = 168

Total number of last 4 numbers

= 18 × 4 = 72

Total number of 12 numbers = 168 + 72 = 240

Average of 12 numbers $\frac{240}{12}$ = 20

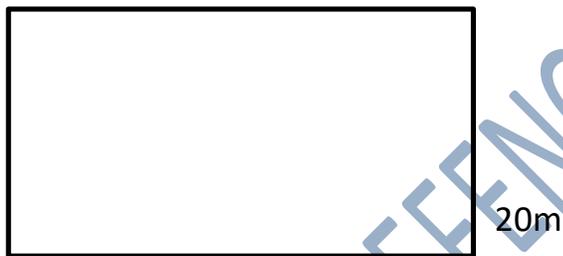30. Find the perimeter and the area of given figure.

20m

30 m

Ans.

20m

30m

Perimeter = 2(30 + 20) = 100m

Area = 30 × 20 = 600m^2.

PART – B : LANGUAGE ABILITY

1. Write a paragraph of 15 sentences of topic :

a. An important day in my life or

b. My aim in life

Ans. A. **An important day in my life**

I was studing in fifth class in dav public schooli took up scholarship examination. I was expecting good result , since i was good at studing . On 11th march raman , my classmate, came running to my house early in the morning . He dislosed that the scholarship result was out and i was lucky to be one of the successful candidate he congratulated me and embarrsed me . I also thank him and wished him 'best of luck' .

On hearing the good news of my scholarship , most of my relatives and friends visited my house . In the evening , my parents and uncles brought for me good gifts a wrist watch, a bicycle and some good books. They all prey for my further success in my life.

Thus 11th march was an important day of my life

B.   **My aim in my life**

   My aim in life is to become a doctor . I want to serve sick people , give them proper medical treatment , and very much impressed with dr. P.k. arora. Dr, arora's clinic is very to our house . I keep on watching dr. Arora working with the patient he works more then 15 to 16 hrs. A day . I have seen him going out at night to visit the sick people . He is very good doctor , he has a smiling face. He never becomes angry. He does not take fee from poor sick people.
After becoming a doctor i will open my clinic in a remote village . Medical facilityis not available in remote village . Sick people of the village are taken from the village to the town or a city for treatment my ambition is to live in a far distant village, open a good clinic and serve the poor sick people .

2. Read the following passage and answer the question.
Kalidas is known as the Shakespeare of india. His name has been immortalized in the history Sanskrit literature . He was at the head of the celebrated 9 gems which adrned the court of king Vikramaditya the poems and dramas of kalidas have elicted unreserved praise not only from Indian scholars but also from European criticize like Maxmuller a German. The age in which kalidas flourished and the place where he was born are matter of dispute . But true genius is independent of time and place although the century of kalidas far more remote, his fame in shining with undiminished grandeur even in our own days .
A. Who is the Shakespeare of india ?
Ans. Kaalidas is the shakespeer of india

B. Who was maxmuller ?
Ans. Maxmuller was a germen scholar and critic.

C. What is the language used by kalidas for his litrary work ?
Ans. Kalidas used sanskrit language for his litrary work.

D. Where was kalidas born?

Ans. Kalidas was born in ancient india but the exact place of birth is disputed

E. What was the position of kalidas in the court of king vikram aditya ?

Ans. Kalidas was at the head of the celebrated 9gems in the court of vikramaditya.

3. Make a sentence of your own for each underlined word given in the following passage .

Once smart looking young man visited the office of a business man to look for a job. The manager though pleased with his behaviour said, "there is no vacancy of a clerk" the young man was very unhappy and turned to go . As he was passing out of the doorway he found waste paper scattered all around the entrence . He at once picked them up and dropped in dustbin . The manger saw this and was greately impressed . He thought that the applicant was good enough to be employed in the office so he called him backed and appointed him a clerk in his office .

Ans. A. The teacher was pleased with his answer

    B. His behaviouur was very good

    C. He was was looking for vacancy in news paper

    D. She was impressed with his personality

    E. Applicant was selected for a post

5. Write a leave application to headmaster seeking two days leave to appear in sainik school entrance examination

Ans. The headmaster ,

Abc primary school,

Daryaganj ,

New delhi – 110002.

Respected sir ,

With due respect i beg to say that i have to appear in my sainik school entrance examination on 04-05-august. Please grant me leave for 2 days to enable me to appear in it nd raise the name of our school higher with pride.

Thanking you.

Your sincerely,

Xyz

Class- 5th a

Roll no. – 1

6. Use each of the word in separate sentences of your own to show difference in meaning of words of the pairs given below:

A. Sale, sail

Ans. (i) there was a grand sale of garments going on

(ii) the ship set sale for rome

B. Throne, thron

Ans. (i) he sat on the throne like a king

(ii) he never cared for thron on the way

C. Whether, weather

Ans. (i) no one can surely say whether will it rain or not

(ii) weather in shimla pleasant

D. Yearn, earn

Ans. (i) no one knows how much money he earns

(ii) he was yearning to have the new game

E. Cattle, kettle

Ans. (i) the cattle was grazing in the field

(ii) there is little tea in my kettle

7. Choose correct form of pronounce from the bracket and fill in the blanks.

a. we scored as many goals as _____ .(they, them, there)

Ans. they

b. the horse fell down and broke _____ leg. (it, its, his)

Ans. its

c. the presence are for _____ and me. (you, your, yourself)

Ans. you

d. wait for hari _____ . (I, me, mine)

Ans. me

e. nobody but _____ was present. (he, his, him)

Ans. he

8. change each of the following as directed.

a. he had been sleeping till now since moring. (change into interrogative)

Ans. had he been sleeping till now since morning?

b. the garden will be looking its best next month. (change into negative)

Ans. the garden will not be looking its best next month.

c. he leads a most unhappy life. (change into exclamatory)

Ans. what an unhappy life he leads?

d. how beautiful is night ! (change into assertive)

Ans. the night is beautiful.

e. who does not know the owl? (change into assertive)

Ans. everyone knows the owl.

9.

a. don't sit _____ the grass. It is wet. (in/at/on)

Ans. on

b. there is a pair of shoes _____ the bed. (above/around/under)

Ans. under

c. the dog swam _____ the river. (by/ beside/ across)

Ans. across

d. I am sorry _____ what I have done. (for /by /with)

Ans. for

e. I felt nervous _____ the exam. (since / before / while)

Ans. before