PLAT EXAM DWITIYA

Incubated at ROLTA INCUBATION CENTRE MANIT BHOPAL

Sponsored by Vijay convent Higher Secondary school

MM-216   **7th-8th**   **Time-2.0 hour**

Science

[1]When Harsh shake hand with Kabir, the kind of force exerted between their hand is

a)Gravitational force   b)weak force

c) electromagnetic force   d) nuclear force

2) If the pressure produced by a force over an area of 100 cm^2 is 30 Pascal then calculate the force applied.

a) 0.3 Newton   b)0.4 Newton   c)0.5 Newton   d)0.6 Newton

3)Identify the wrong statement

  a)Friction always opposes the motion

  b)Friction always opposes relative motion between two surfaces

  c)Friction acts between two rough surfaces in contact with each other

  d)Friction always acts opposite to the direction of motion or intended motion

4) During which defect of vision eye lenses become access converging

    a)Myopia   b)Hypermetropia   c)Astigmatism   d) night blindness

5) Which of the following is a nonmetal?

 a)Mercury   b)Graphite   c)platinum   d) tungsten

6) Virus are made up of

 a)DNA   b)RNA   c)Protein coats   d)all of these

7) Which of the following is called the powerhouse of the cell?

 a)Mitochondria   b)plastid   c)Golgi body   d)lysosome

8) Which of the following is not an exocrine gland?

 a)Pituitary gland b)Sweat gland   c)Sebaceous gland   d)none of these

9) Which of the following is the preventive measure for water pollution

 a)Excessive use of fertilizer should be avoided

 b)Wastage should not be thrown into open

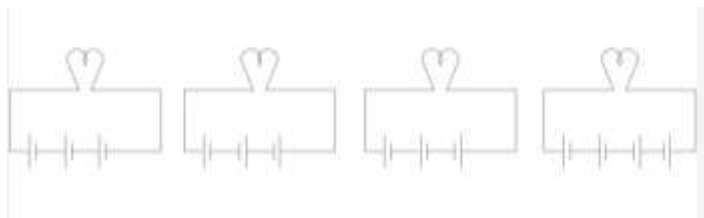c)The sewage should not be dumb into rivers

 d)All of these

10) Threat to the famous monument Taj Mahal is due to

a)Water pollution,   b)Air pollution   c)Noise pollution   d)none of these

11) The break applied to a car produces a negative acceleration of 6 m/sec^2 if the car stop after 2 second then the initial velocity of the car is

 a)6m/sec   b) 12 m/sec   c)24 m/sec   d)0 m/sec

12) Four identical bulbs are connected across identical cells as shown below in which of the following 4 cases the bulb will glow with maximum brightness

13) Choose the correct option

A) rusting of iron takes place when the iron is exposed to liquid air

B) In rusting the formula of the rest is Feso4.XH2O

     a) only A is true   b) only B is true

     c) both A and B are correct   d) None of the correct

14) A person moves from the point an along the boundary of a given square-shaped field of side 120 m with uniform speed,if he takes 2 minutes to return to his initial position what is his speed

a)1m/sec   b)2m/sec   c) 4m/sec   d)8m/sec

15) Air conditioners are placed high up on the walls so that

  a)They create less noise

  b)Cold air from them comes down and cools the room while hot air rises up

  c)They are out of the way

  d)All of the above

16)A sound wave has a frequency 2 kilohertz and a wavelength of 35 cm. How long will it take to travel 1.5 km

a)1.5sec   b) 2.1sec   c)3sec   d)4sec

17) To protect the tooth decay we are advised to brush our teeth regularly the nature of the toothpaste commonly used is

 a)Acidic   b)Neutral   c)basic   d)corrosive

18) Proton,neutron and electron are present in the chlorine atom in the sequence

a)17 17 18   b) 17 18 17   c)18 17 17   d) 17 17 17

MATHS

1. Solve for x: $\frac{3x-2}{5x-7} = \frac{1}{12}$

  a) -4   b) 3   c) 25   d) 100

2. $\sqrt{\dfrac{256a^4b^4}{625a^2b^2}}$ =_____

a) $\dfrac{16b}{25a^2}$ b) $\dfrac{16ba}{25}$ c) $\dfrac{4b}{25a}$ d) $\dfrac{4b^2}{25a}$

3. 2 pipes P1 and P2 can fill a tank in 6 hour and 3 hour respectively. Both the pipes are opened simultaneously and pipe P1 is closed after one hour. Find the time taken by P2 to fill the remaining part of the tank (in hours)
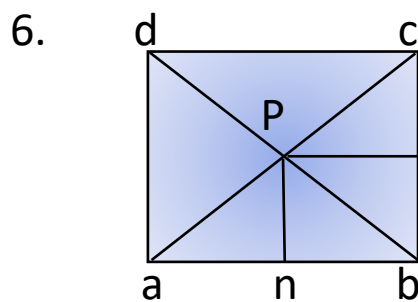
a)1   b)1.5   c)2   d)2.5

4. If $x^{(5+a)^2} * x^{(5-a)^2} = x^{52}$, then find **a**

a) 2   b) 1.3   c) 1   d) 1.5

5. If $x^y + y^x =$? where x and y are distinct natural numbers, find x+y=?

a) 6   b) 8   c) 5   d) 4

6.

In the figure above ABCD is a square of side 18 cm and PN perpendicular to BC and PM perpendicular to AB. Find the length of MN

a) 9cm   b) $18\sqrt{2}$ c)$10\sqrt{2}$ d) $9\sqrt{2}$

7. The angle of sector of radius 14 cm is $90°$, then the area of sector is _____

a) 144   b) 154   c) 162   d) 196

8. The angle of sector of a circle is $108°$ and radius of circle is 15meter. The ratio of circumference of the circle and the length of arc of actor is

a) 3:10   b) 10:3   c) 1:3   d) 3:1

9. If 5z+1.5(0.5z+10)>590, then z>_____

a) 15   b) 100   c)150   d) 200

10. Ramesh and Suresh have total of ₹200. If Ramesh gives ₹40 to Suresh, then the amounts with both would get interchanged. Find the account with Suresh (in₹)

a) 70   b) 60   c) 50   d) 80

11. If $\dfrac{a+b}{c+d}=\dfrac{x}{y}$,then y =_____

a) y=x(a+b)(c+d)   b) y=x/(a+b)(c+d)

c) y=x(c+d)/(a+b)   d) None of these

12. If the mean of N observations is 12 and the sum of the observations is 132, then find the value of N
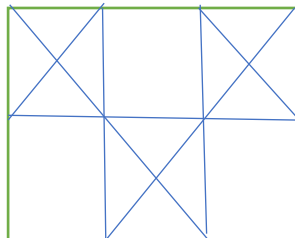
a) 9   b) 10   c) 11   d) 12

13. The mean of P,Q and R is same as the mean of Q , 2R and S. Then which of the following is correct.

  a) p=q=r   b) q=r=s   c) q=r   d) p=r+s

14. In a class of 50 students, each student past math or English. If 10 students passed math and English and 30 students Passed the maths, then find the number of students who passed English.

  a) 30   b) 20   c) 10   d) 40

15. A parallelogram in which the diagonal bisect other at right angles must be _____

a) a rhombus   b) a rectangle   c) a square   d) either a or b

16. Find the degree of $(x^3 - x^2)^2$.

a) 12   b) 4   c) 6   d) 9

17. 1/5 of number is 5 more than 1/10 of number find the number.

a) 50   b) 75   c) 25   d) 100

18. If $\frac{x+y}{z} = \frac{a+b}{c}$, then make y the subject of formula.

a) $\frac{a+b}{c} * z$ b) $\frac{(a+b)z}{c} - x$ c) $\frac{z}{c}\frac{(a+b)}{x}$ d) 0

REASONING

1)In the given number series 1 term is missing choose the correct alternative that will continue the same pattern-   7,10,8,11,9,12, ?
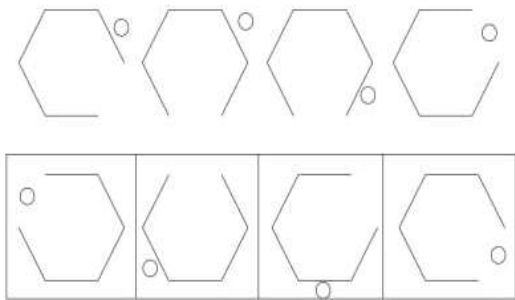
  a) 7   b)10   c)14   d)13

2) Observe the given figure and choose the correct option

 The number of square in the above figure is

  a) 6   b)8   c)9   d)7

3) A clock seen through a mirror shows quarter past 4 what is the correct time shown by the clock
a) 9:45   b)9:15   c)8:45   d)7:45

4) B is to the Southwest of A.C is to the east of B and south east of A and D is to the north of C in line with BA. in which direction of A is D located

  a) east   b)north   c) south-east   d) north-east

5) Find the missing figure which will continue the given series

6) In the given question which number should we fill?

a) 2　　　　　　　b) 3　　　　　c) 4　　　　　　d) 5

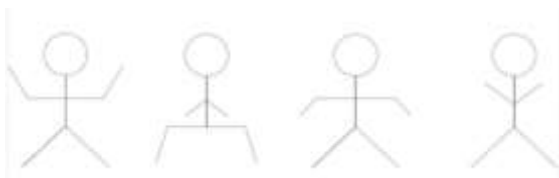| 18	24	32
12	14	16
3		4
72	112	128

7) A's brother's sister's father's brother is B and B's daughter is D how A is related to D

 a) brother　　　b) mother　　c) cousin　　d) uncle

8) Which of the following has exactly the same relationship as that of "speech : hear"?

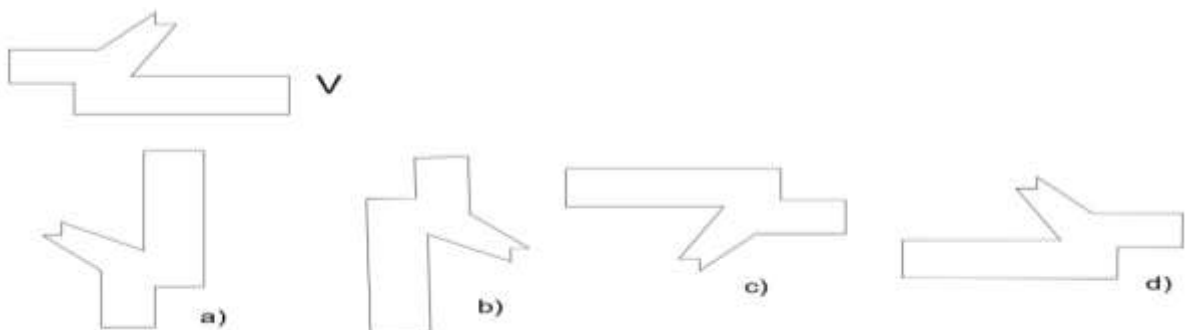a) see: picture　　b) walk: stick　　c)soup: drink　　d)jump: road

9) Select the odd one out-

10) If the English alphabet is reversed then which would be eighth letter to the left of 7th from right?

 a) P　　　　　　b) O　　　　　　c) Q　　　　　d) N

11) Aman rotated a game piece 270 degree clockwise around vertex V which of the following represents the position of the game piece after the 270degree clockwise rotation?

12) If each of the letters in the English alphabet is assigned an odd numerical value beginning A=1,B= 3, and so on, what will be the total value of the letters of the word 'INDIAN'?

     a) 86   b) 88   c) 89   d) 96

13) If → stands for addition ← stands for subtraction ↟ stands for division ↗ stands for multiplication and ↘ stands for equal to then which of the following option is correct

     a) 7 ← 43 ↟ 6 ↘ 1 ↗ 4   b) 5 → 7 ← 3 ↟ 2 ↗ 4

     c) 3 ↘ 6 ↟ 2 → 3 ← 6 ↗ 5   d) 2 ↘ 5 ← 6 → 2 ↗ 6

14) A clock is so placed that at 12 noon it's minute hand points toward North East in which direction does its hour hand point at 1:30 p.m.?

     a) NORTH   b) SOUTH   c) EAST   d) WEST

15) Mohit ranked 12th in a class of 33 students from top what is his rank from the bottom

     a) 22nd b)21st c)23rd d)15th

16) Select the correct Mirror image of given combination if the mirror is placed along MN

     a) ⱯΛϛⱵⱭ   b) ϘⱢϛϛⱯΛ

     c) AV5STQ   d) ϘⱢϛϛΛⱯ

17)There are 23 steps to reach a temple on descending from the temple Mohit takes 2 steps in the same time Rohit ascents one step. if they start to work simultaneously at which step will they meet each other?

     a) 11th b) 9th c) 10th d) none

18) If your birthday in 1994 fell on Sunday then on what day of the week did your birthday fall in 1995?

     a) Sunday   b) Tuesday   c) Monday   d) Saturday