INDIAN SCHOOL MUSCAT
MIDDLE SECTION
ANNUAL EXAMINATION 2018-19

MATHEMATICS(MARKING SCHEME - STD 8

DATE: 14 /03/19

	SECTION A	
1.	Write the standard form of 0. 0000569. 5.69×10^{-5}	
2.	Find the value of $\left(\dfrac{3}{5}\right)^{-2} = \left(\dfrac{5}{3}\right)^{2} = \left(\dfrac{25}{9}\right)$	
3.	Find the area of a rhombus whose diagonals are 18cm and 9 cm. $(18 \times 9)/2 = 81 \text{ cm}^2$	
4.	Find the LSA of a cube with edge 6cm. $4 \times 6 \times 6 = 144 \text{ cm}^2$	
5.	Find the probability of getting an even number when a die is rolled once. $3/6 = \frac{1}{2}$	
6.	Write the coordinates of the origin. (0,0)	
	SECTION B	
7.	Find the side of a square whose area is 676 m^2. Side = square root of 676 = 26 cm	

8.	Factorise : 7ab + 9cd + 7ad + 9bc = 7ab +7ad + 9cd + 9bc
	                                = 7a (b + d) + 9c (b+ d)
	                                  = (b + d) (7a + 9c)	

9.	Simplify $\left[3^3 \times \left(\dfrac{1}{2}\right)^{-3} \times \dfrac{1}{4} \right]$ $= (27 \times 2^3 \times \frac{1}{4}) = (27 \times 8 \times \frac{1}{4}) = (27 \times 2) = 54$	
10.	What is the cost price of an item which is sold at a loss of 25% for Rs 1500? <table><tr><td>Cp = 100</td><td>Loss = 25</td><td>Sp = 75</td></tr><tr><td>Cp = x</td><td>-</td><td>Sp = 1500</td></tr></table> x = (1500 x 100) / 75 = Rs 2000	

11.	Solve: 5(2y + 1) = 3 (y - 3)
	          10y + 5 = 3y – 9
	           10y - 3y = -9 – 5
	             7y = - 14 y = - 2	

12.	Write the quadrants in which the following points lie? (1, 2) , (5, -2) , (- 4,-1) and (-6, 1). 1st , 4th , 3rd , 2nd	

	SECTION C	
13.	Find the least number which must be subtracted from 2361 to make it a perfect square. Square root by division method. Number to be subtracted remainder is 57	
14.	Construct a rectangle ABCD such that AB = 6.4 cm and BC = 5.2 cm Drawing AB draw 90 cut 5.2 cm then completing	
15.	Simplify $(2x + y) (5x - 2y)$ and find the value when x = 1 and y = 2 $= 2x (5x - 2y) + y(5x - 2y)$ $= 10x^2 - 4xy + 5xy - 2y^2$ $= 10x^2 + xy - 2y^2$ $= 10 \times 1^2 + 1 \times 2 - 2 \times 2^2$ $= 4$	
16.	Factorise : $x^2 + 10x + 24$ $= x^2 + 6x + 4x + 24 = x(x + 6) + 4(x + 6)$ $= (x+6) (x+4)$ (or any other method)	
17.	Simplify : $\dfrac{2^{-4} \times 25}{5^3 \times 10^{-4}}$ $= \dfrac{10^4 \times 25}{2^4 \times \times 5^3}$ $= \dfrac{(2 \times 5)^4 \times 5^2}{2^4 \times 5^3} = \dfrac{(2)^4 \times (5)^4 \times 5^2}{2^4 \times 5^3} = \dfrac{5^6}{5^3} = 5^3 = 125$	
18.	A shopkeeper charged Rs 1232 for a fan which includes 12% VAT on it. Find the price of the fan before VAT and also find the VAT amount. 	Before VAT =100	VAT=12	After VAT =112
x	-	1232
x = (1232 x 100)/112 = Rs 1100	VAT amount = 1232 – 1100 = Rs 132			
19.	Solve : $\dfrac{3x + 2}{5x + 4} = \dfrac{3}{4}$ 4(3x+ 2) = 3(5x +4) 12x+ 8 = 15x +12 15x – 12x = 8 – 12 3x = - 4 or x = - 4 /3	
20.	A class room 11m long, 8m wide and 5m high. Find the sum of the areas of its floor and the four walls. Area = 2h (l + b) + l x b = 2 x 5 (11 + 8) + 11 x 8 = 10 x 19 + 88 =190 + 88 = 278 sq m	

21.	Construct a histogram for the following data.	

Class interval	40-50	50-60	60-70	70- 80	80-90
Frequency	12	5	18	14	10

Drawing axes and correct scale
Each bar

22.	Draw a linear graph for the following data.

Sum (in rupees)	100	200	300	500
Annual S I (in rupees)	10	20	30	50

 Drawing axes and correct scale
Plotting points and joining the points

SECTION D

23. Find the least number to be multiplied 704 to get a perfect square. Also find the square root of the number obtained.

704 =   2x2 x 2x2 x 2x2 x 11
The least number multiplied is 11
704 x 11 = 7744
Square root of 7744   =   2x2 x 2x11 = 88

24. Construct a parallelogram ABCD in which AB = 5.2cm, BC = 6.5 cm and
BD = 7.8cm
Drawing base AB   ½
 getting the point D (½ + ½), joining AD and BD
 getting the point C and completing ABCD

25. Simplify : $(4a - 3b)^2 + (4a + 3b)^2$
$= (4a)^2 - 2 \times 4a \times 3b + (3b)^2 + (4a)^2 + 2 \times 4a \times 3b + (3b)^2$
$= 16a^2 - 24ab + 9b^2 + 16a^2 + 24ab + 9b^2$
$= 32a^2 + 18b^2$

26. Divide : $25pq (9b^2 - 16) \div 5p (3b + 4)$

$= 25pq((3b)^2 - (4)^2) \div 5p (3b + 4)$
 $= 25pq(3b - 4)(3b + 4) \div 5p (3b + 4)$
 $= 5q (3b - 4)$

27. Find the compound interest on Rs 12000 for 2 years compounded annually, the rate of interest being 5% per annum.

$A = p (1 + r/100)^n$
$= 12000 (1 + 5/100)^2$
 $= 12000 \times 105/100 \times 105/100$
$= Rs\ 13230$
Compound Interest = 13230 - 12000 = Rs 1230

28.	Kiran is 24 years older than Rakesh. After 5 years, Kiran's age was three times the age of Rakesh. Find their present ages.	

Rakesh present age x	Kiran present age is x + 24
After 5 years is x +5	X+ 24 + 5 = x + 29

Equation is x + 29 = 3(x +5)
   x + 29 = 3x + 15
  3x – x = 29-15
   2x = 14   or x = 7.
The ages are 7years and 31 years

29.	The radius of a right circular cylinder is 7cm and its height is 20cm. Find its curved surface area and volume.

CSA = 2 ¶ rh = 2 x 22/7 x 7 x 20
 = 2 x 22 x20 = 880 sq cm
Volume = ¶ r^2h = 22/7 x 7 x 7 x 20
 = 22 x 7 x 20
= 3080 cubic cm

30.	The following table gives the number of different fruits kept in a carton. Represent the above data using a pie chart.

Types of fruits	Mangoes	Apples	Oranges	Pears	Grapes
Number of fruits	50	60	40	10	20

Total 180.
Calculating central angles
Drawing circle and marking correct angles.