## APEEJAY SCHOOL PITAM PURA SA-I (2016-17) CLASS-VIII SUBJECT-MATHEMATICS

Time allowed : 3 hrs General Instructions: Max marks : 80

- All questions are compulsory.
- Q1-Q5 carry 1 mark each.
- Q6-Q15 carry 2 marks each.
- Q16-Q25 carry 3 marks each.
- Q26-Q30 carry 5 marks each.

Q1. Find the additive inverse and multiplicative inverse of  $\left(-\frac{3}{4}\right)$ .

- Q2. Is 1327 a perfect square? Why or why not?
- Q3. Find the ratio of 10kg to 800g.
- Q4. How many non square numbers lie between  $(28)^2$  and  $(29)^2$ ?
- Q5. Find the product of 2a,  $-3bc^2$ ,  $4a^2b$ , 5abc.
- Q6. Subtract  $(3x^2 + 4x 7)$  from  $(9x^2 5x 3)$ .
- Q7. Solve: 3(x + 2) = 2(7x 1)
- Q8. The price of a toy decreased from Rs.250 to Rs.230. Find the % decrease in the price.
- Q9. Check if 24000 is a perfect cube or not.
- Q10. How many sides does a regular polygon have if the measure of an interior angle is  $108^{\circ}$ ?
- Q11. Find  $\frac{4}{5} \ge (\frac{-3}{7}) \frac{3}{7} \ge \frac{2}{9}$ , using suitable property.
- Q12. Solve for x :

$$\frac{6x+1}{3} - \frac{x-3}{6} = -1$$

Q13. The measures of two adjacent angles of a parallelogram are in the ratio 7 : 2. Find the measures of these two angles.

- Q14. Find  $\sqrt{1075.84}$ .
- Q15. Simplify:

$$(x^{2} - y^{2})(x^{2}y - xy^{3})$$

Q16. The present ages of Rajat and Ashish are in the ratio 4:5. After 8 years, the ratio of their ages will be 5:6. Find their present ages.

Q17. Find the values of x, y and z in the following parallelogram PQRS.



Q18. Construct a quadrilateral ABCD in which AB = 3.6cm,  $\angle B = 80^{\circ}$ , BC = 4cm,

 $\angle A = 120^{\circ}$  and AD = 5cm.(Steps of construction are not required).

Q19. Find the greatest 5 digit number which is a perfect square. Also, find the square root of the number so obtained.

Q20. ABCD is a rhombus. Find x, y and z if AD = 13cm, AC = 24cm and OB = 5cm.



Q21. The students of a class arranged a picnic. Each student contributed as many rupees as the number of students in the class. If the total contribution is Rs. 2,704, find the strength of the class.

Q22. Find the smallest number by which 26364 must be divided so that the quotient is a perfect cube. Also, find the cube root of the perfect cube so obtained.

Q23. Find the original price of a shampoo bottle bought for Rs.330 if 10% VAT is included in the buying price.

Q24. Simplify :

(a + b) (2a - 3b + c) - (2a - 3b)c.

Q25. The list price of a shirt is Rs.840. It is sold for Rs.720. Find the discount and discount %.

Q26. The sum of the digits of a two digit number is 15. If the number formed by interchanging the digits is less than the original number by 27, find the original number. Q27. Raunak bought two table- fans for Rs1,200 each. He sold one at a loss of 5% and the other at a profit of 10%. Find the selling price of each. Also, find out the gain or loss % on the whole transaction.

Q28. Anshul took a loan of Rs.1,60,000 from a bank. If the rate of interest is 10% per

annum, find the amount and the compound interest he would be paying after  $1\frac{1}{2}$  years if

the interest is compounded half yearly.

Q29. Simplify using suitable identities :

i)  $(7mn + 4n)^2 - (7mn - 4n)^2$ 

ii) 95 x 103

Q30. Construct a rhombus MNOP in which MO = 5.6cm and NP = 6.5cm. Write the steps of construction also.