AMRITA VIDYALAYAM
ANNUAL EXAMINATION 2018 - '19

Class : VIII   **Marks : 80**
                                     Time   : 2½ hrs

MATHEMATICS

GENERAL INSTRUCTIONS:
i. All questions are compulsory.
ii. This question paper consists of four sections
Section A : Q.1 to 6   (1 mark each)
Section B : Q. 7 to 12   (2 marks each)
Section C : Q : 13 to 22   (3 marks each)
Section D : Q 23 to 30   (4 marks each)
iii) Use of calculator is not permitted

SECTION - A

1. Find the greatest common factor of $6x^2y^2$, $9xy^3$, $3x^3y^2$.
2. Find the value of $(-2)^{-3} \times (-2)^{-4}$.
3. Find the area of a rhombus whose diagonals are of length 10 cm and 8.2 cm.
4. Convert the following ratio 3:4 into percentage.
5. Solve the following equation $3/7 + x = 17/7$.
6. Express 8090000 in the standard form.

SECTION - B

7. Solve $(7y + 4) / (y + 2) = -4/3$.
8. A shop gives 20 % discount. What would be the selling price if a dress marked at ` 750?
9. Find 'm' so that $(-3)^{m+1} \times (-3)^5 = (-3)^7$.
10. Divide the polynomial $p^3q^6 - p^6q^3$ by p^3q^3.
11. A closed cylindrical tank of radius 7m and height 3m is made from a sheet of metal. How much sheet of metal is required?
12. By what number should $(-8)^{-1}$ be multiplied so that the product

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may be equal to 10^{-1}?

SECTION - C

13. Find a number such that when 5 is subtracted from 5 times the number, the result is 4 more than twice the number.

14. Find the compound interest on rupees 1000 at the rate of 10% per annum for 18 months when interest is compounded half yearly.

15. An aquarium is in the form of a cuboid whose external measures are $80 \, cm \times 30 \, cm \times 40 \, cm$. The base, side faces and back faces are to be covered with a coloured paper. Find the area of the paper needed.

16. Factorise the expressions and divide.
   $12 \, xy \, (9x^2 - 16y^2) \div 4xy \, (3x + 4y)$

17. The present ages of Anu and Raj are in the ratio 4:5. Eight years from now the ratio of their ages will be 5:6. Find their present ages.

18. Locate the following points on a graph sheet.
   $K \, (2, 3); L \, (5, 7); M \, (0, 8); N \, (8, 0)$

19. Construct a rhombus whose diagonals are of length 5.8 cm and 6.4 cm

20. The cost of an article was ` 15,500. ` 450 were spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.

21. Sum of the digits of a two-digit number is 9. When we inter change the digits, it is found that the resulting new number is greater than the original number by 27. What is the two-digit number?

22. Factorise $p^2 + 6p + 8$.

SECTION - D

23. Construct quadrilateral ABCD in which AB = 6 cm, BC = 5cm, $\angle A = 50^0$, $\angle B = 100^0$ and $\angle D = 90^0$.

24. Solve.

a) m/4 -1/2 = m/6 + 5   b) 0.16 (5x - 2) = 0.4x + 7

25. The following table shows the interest on deposits for a year.

Deposit (in `)	1000	2000	3000	4000	5000
Simple interest (in `)	80	160	240	320	400

Draw a line graph for the above information and answer the following

a) From the graph, find the interest on ` 2,500 for a year.

b) To get an interest of ` 280 per year, how much money should be deposited?

26. Arun bought a pair of skates at a sale where the discount given was 20%. If the amount he pays is ` 1,600, find the marked price.

27. A sum of ` 10,000 is borrowed at a rate of interest 15 % per annum for 2 years. Find the simple interest on this sum and the amount to be paid at the end of 2 years.

28. The area of a trapezium shaped field is 480 m², the distance between two parallel sides is 15m and one of the parallel side is 20m. Find the other parallel side?

29. Evaluate.

a) $\{(1/3)^{-1} - (1/4)^{-1}\}^{-1}$ b) $(8/5)^{-7} \times (8/5)^{-4}$

30. A milk tank is in the form of cylinder, whose radius is 1.5m and length is 7m. Find the quantity of milk in litres that can be stored in the tank?