INDIAN SCHOOL SALALAH

SECOND TERM EXAMINATION, 2017 -2018

MATHEMATICS **MARKS: 80**

CLASS: VIII **TIME: 3HOURS**

General Instructions:

i. All questions are compulsory.

ii. This question paper consists of 30 questions divided into 4 sections. Section A contains 6 questions of 1 mark each. Section B contains 6 questions of 2 marks each. Section C contains 10 questions of 3 marks each. Section D contains 8 questions of 4 marks each.

iii. Internal choices have been provided in Section C and Section D. You have to attempt only one of the choices in such questions.

SECTION A (1 MARK EACH)

1. Find the product of $20x^2$ and $5y^2$
2. Find the volume of a cube whose edge is 8cm.
3. Find the ratio of 5m to 10km.
4. Solve: $5x+8=-17$.
5. Find the square of 75.
6. Find the common factors of $12a^2b^4$ and $8a^2b^2$.

SECTION B (2 MARKS EACH)

7. Evaluate 103 x 104 using identities.
8. Factorise a^3+a^2+a+1
9. Reshma owns a trapezium shaped plot near a main road with parallel sides 100m and 120m and the distance between parallel sides is 80m. Find the area of her plot.
10. Two numbers are in the ratio 5:7 and their sum is 192. Find the numbers.
11. Find the square root of 64 using repeated subtraction.
12. Manish purchased a scooter for ₹36,000 with a sales tax of 10%. Find the total amount paid for the scooter.

SECTION C (3 MARKS EACH)

13. The perimeter of a rectangular swimming pool is 154m. Its length is 2m more than twice its breadth. What are the length and the breadth of the pool?

OR

Solve: $\frac{7x-5}{3}-1=\frac{x-3}{6}$

14. The diagonal of a quadrilateral shaped field is 72m and the perpendiculars dropped on it from the remaining opposite vertices are 18m and 24m. Find the area of the field.
15. Acuboid is of dimensions 60cm x 48cm x 36cm. How many small cubes with side 6cm can be placed in the given cuboid?

OR

The radius of a well is 3.5m and the depth of the well below the ground is 28m. Find the surface area of the well.

16. Simplify and express in exponential form: $\frac{7^{-2}\times 11^{-8}\times 3}{11^{-3}\times 21}$
17. A farmer bought a piece of land for ₹1,00,000. He spent ₹15,000 in order to plough the land. He built a fence around it for ₹5,000. Then he sold the land making a profit of 10%. Find the selling price of the land.

OR

Mr. Mohiuddin bought a TV for ₹42,000with a 5% VAT included in it. What was the price before the inclusion of VAT?

18. Simplify: $(x+y)(2x+y)+(x+2y)(x-y)$
19. Factorise: i) $10x^2-18x^3+14x^4$ ii) $12a^2b+15ab^2$

20. Simplify: $\left(m^2 - n^2 m\right)^2 + 2m^3 n^2$

OR

Using suitable identities find i) $(2x+3y)^2$ ii) $(103)^2$.

21. Factorise: $a^2 - 2ab + b^2 - c^2$

OR

Factorise: $m^4 - 256$

22. A scooter was bought for ₹56,000. After one year the value of the scooter was depreciated by 5%. Find the value of the scooter after 1year.

SECTION D (4 MARKS EACH)

23. Find the amount and compound interest on ₹1, 25,000 for $1\frac{1}{2}$ years at 8% per annum if the interest is compounded half yearly.

OR

Rohit borrowed ₹15,000 at 10% per annum simple interest for 2years. Had he borrowed this sum at 10% per annum compound interest, what extra amount would he have to pay?

24. i) Find the square root of 7225.

ii) Write a Pythagorean triplet whose one member is 16.

25. Subtract the sum of $\left(p^2 - 5q^2 + 2r^2 + 3pqr\right)$ and $\left(-3p^2 - 7q^2 + r^2 - pqr\right)$from the sum of $\left(3p^2 - q^2 + 7r^2 + 5pqr\right)$and $\left(-p^2 - q^2 - 2r^2 - 3pqr\right)$

26. Simplify and express the result in power notation

a) $\left\{\left(\frac{1}{4}\right)^{-2} + \left(\frac{1}{3}\right)^{-2}\right\} \div \left(\frac{1}{4}\right)^{-2}$

b) $\left(8^0 + 8^{-1}\right) \times 3^{-2}$

27. a) Factorise : $x^2 - 11x + 30$

b) Find and correct the errors in the following mathematical statements.

i) $(x+3)(x+4) = x^2 + 12$ ii) $(a-b)^2 = a^2 - b^2$

28. The denominations of the ticket sold in a circus are ₹ 2, ₹ 3 and ₹ 5. On a weekday, there were only 50 audiences and the number of ticketsof ₹5 sold was twice the number of ₹ 3 tickets. And the remaining sold was of ₹ 2 tickets. If the total amount collected on that day was ₹ 205, find the number of tickets sold of each denomination.

OR

Solve the equation and verify your result: $\frac{2x-(7-5x)}{9x-(3+4x)} = \frac{7}{6}$

29. A businessman bought two Laptops for ₹40,000 each. One he sold with a profit of 10% and the other he decided to sell with a loss of 10% so that it can be of help to some needy person. Find his overall gain or loss. By selling the laptop with a loss, what value of the businessman is depicted here?
30. A cuboidal tin box opened at the top has dimensions 20cm x 16cm x 14cm. What is the total area of metal sheet required to make 10 such boxes. Also find its cost if the cost of $1m^2$ metal sheet is ₹15.

OR

A milk tank is in the form of cylinder whose radius is 2m and length is 7m. Find the quantity of milk in litres that can be stored in the tank. Also find the curved surface area of the milk tank.

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