MATHS

BOOKS - JEEVITH PUBLICATIONS

MATHS (KANNADA ENGLISH)

SEQUENCES AND SERIES

Solved Example 2 3 Marks Questions With Answeres

1. Write the first five terms if n^{th} term is

$a_n = n(n+2)$

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2. Write the first five terms if n^{th} terms is

$a_n = \frac{2n-3}{6}$

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3. If the 9^{th} terms of an A.P is zero , prove that 29^{th} term is double the 19^{th} term .

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4. How many two digit numbers are divisible by 3?

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5. Find the 20^{th} term from end of the sequence

3,8,13 ..... 253.

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6. How many terms of AP - 6 $-11/2, -5...$

are needed to give the sum - 25 ?

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7. How many terms of the A.P. 54 ,51 , 48 ..... Are needed to give the sum 513 ?

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8. If the sum of a certain numbe of terms of the A.P. 25 ,22 ,19 ..... is 116 . Find the last term .

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9. The first term of an A.P is 2 and last term is 59. Find the common difference if sum of all terms is 610 .

10. Find the sum of all 3 digit naturals which are divisible by 9.

11. Find the sum of all natural numbers lying between 100 and 1000 , which are multiples of 5.

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12. The interior angles of a polygon are in A.P .The smallest angle is 120° and common difference is 5° . Find the number of the polygon.

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13. The sum pf 'n' terms of two arithmentic progressions are in the ratio $(3n+8):(7n+15)$. Find the ratio of their 12^{th} terms .

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14. The ratio of the sums of m and n terms of an A.P is $m^2:n^2$. Show that the ratio of m^(th) and n^(th)` term is (2m-1) : (2n -1) .

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15. If the sum of first p terms of an A.P is equal to the sum of the first q terms , then find the first (p+q) terms .

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16. If the sum of n terms of an A . P is $3n^2 + 5n$ and its m^{th} term is 164 , find the value of m.

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17. A man starts repaying a loan as first installment of Rs. 100 If he increases the installment by Rs. 5 every month , what amount he will pay in the 30 th installment ?

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18. A man saves Rs. 32 during the first year , Rs. 36 in the next year and Rs. 40 in the third year . If he continues his savings in this sequence , in how many years will he save Rs. 2000 ?

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19. Raju buys a moped for Rs. 22000 . He pays Rs. 6000 cash and agrees to pay the balance in annual installments of Rs. 1000 plus 10% interest on the unpaid amount. Find the total cost of the moped.

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20. Insert 6 numbers between 3 and 24 so that the resulting sequence is an A.P.

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21. Find the 9^{th} and n^{th} term of the G.P.3,6,12,24.....

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22. Which term of the G.P 3,6 ,12 24..... Is 1536 ?

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23. Which term of the sequence $\sqrt{3}, 3, 3\sqrt{3}$ ..... Is 729?

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24. Find the 12th term of a G.P . Whose 8th terms is 192 and the common ratio is 2.

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25. The 4^{th} term of a G.P is square of its second term , and the first term is -3 Determine its 6th term .

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26. The 4^{th} and 9^{th} terms of a G.P. Are 54 and 13122 respectively .Find the 6^{th} term .

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27. Find k if $-\frac{2}{7}$,k, $-\frac{7}{2}$ are in G.P.

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28. How many terms of the G.P. 1,2,4..... must be taken to make the sum 255?

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29. The 4^{th} term of a G.P. is square of its 2^{nd} term . If the first term is -3 find the 7^{th} term of

the G.P.

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30. The first term of a G.P . Is and the sum of 3^{rd} and 5^{th} terms is 90 . Find the common ratio of the G.P.

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31. Find the G.P . For which the sum of first two terms is -4 and the fifth term is 4 times the 3rd

term.

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32. The sum of first three terms of a G.P is $\frac{39}{10}$ and their product is 1. Find the common ratio and the terms.

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33. The sum of first three terms of a G.P is 16 and the sum of the next three terms is 128

Determine the first term, the common ratio and the sum to n terms of the G.P.

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34. Find four numbers forming a geometric progression in which the third term is greater than the first term by 9 and the second terms is greater than the 4th by 18.

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35. Insert 4 geometric means between 1 and 243.

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36. Find two numbers whose A.M. is 5 and G.M. is 4.

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37. If a,b,c are in G.P and $a^{\frac{1}{x}} = b^{\frac{1}{y}} = c^{\frac{1}{z}}$, prove that x,y,z are in A.P.

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Solved Example Five Marks Questions With Answers

1. Find the sum to n terms of the series , 5+11+19+29+41...

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2. Find the sum of 'n' terms of 1.2 +2.3+3.4+4.5+.....

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3. Find the sum to 'n' terms of 1.2.3 +2.3.4+3.4.5+.....

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4. Find the sum to 'n' terms of $3.1^2 + 5.2^2 + 7.3^2 + ...$

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5. Find the sum to 'n' terms if n^{th} term is given by $n^2 + 2^n$

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6. Find the sum to 'n' terms of the series

$1^2 + 3^2 + 5^2 + \ldots . +$

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7. Find the sum to n terms of the series ,

5+11+19+29+41...

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8. Find the sum to n terms of the series

$$\frac{1}{1\times 2}+\frac{1}{2\times 3}+\frac{1}{3\times 4}+\ldots\ldots$$

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9. Find the sum to n terms of the series

$$1^2+\left(1^2+2^2\right)+\left(1^2+2^2+3^2\right)+\ldots\ldots$$

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