

**Work Sheet – 01(Mathematics)  
for class – Nine (17.09.2020),  
Chapter- Thirteen, Exercise- 13.2  
Finite Series**

**Creative Multiplication Choice Questions**

1. What term of the series:  $256 + 128 + 64 + \dots$  is  $\frac{1}{4}$ ? [D.B.- 20]

- a) 12                      b) 11  
c) 10                      d) 9

2.  $64 + 32 + 16 + 8 + \dots$  Which is the 8<sup>th</sup> term of the series? [S.B.- 20]

- a)  $\frac{1}{2}$                       b)  $\frac{1}{4}$   
c) 2                      d) 4

3. If  $4 + p + q + 32$  is a geometric series then which one is the value of  $(p^2 + q^2)$ ? [B.B.- 20]

- a) 80                      b) 264  
c) 320                      d) 576

4. Which term of the series:  $1 + 4 + 16 + \dots$  is 1024? [D.B.- 19, B.B.- 17]

- a) 5<sup>th</sup>                      b) 6<sup>th</sup>  
c) 10<sup>th</sup>                      d) 11<sup>th</sup>

5. If  $6 + 12 + a + 48 + \dots$  is geometric series then what is the value of a? [Dj.B.- 19]

- a) 36                      b) 30  
c) 24                      d) 18

6. What is the 8<sup>th</sup> term of the series:  $\frac{1}{\sqrt{3}} - 1 + \sqrt{3} - \dots$ ? [C.B.- 19]

- a)  $-27\sqrt{3}$                       b)  $-27$   
c) 27                      d)  $27\sqrt{3}$

7. If  $p + q + r + s + \dots$  is a geometric series then which one of the following is correct? [Ctg.B.- 19]

- a)  $q - p = s - r$                       b)  $\frac{p}{q} = \frac{s}{r}$   
c)  $\frac{q}{p} = \frac{s}{r}$                       d)  $p - q = r - s$

8.  $12 + 24 + 48 + \dots + 768$  is a geometric series. How many terms have in this series? [S.B.- 19]

- a) 5                      b) 6  
c) 7                      d) 8

9. What is sum of first 100 terms of natural numbers? [B.B.- 19]

- a) 1000                      b) 5000  
c) 5050                      d) 5100

10. If  $\frac{1}{\sqrt{7}}, -1, \sqrt{7}$  are sequence then which one is the common ratio? [Dj.B.- 17]

- a)  $\frac{1}{\sqrt{7}}$                       b)  $-\frac{1}{\sqrt{7}}$   
c)  $\sqrt{7}$                       d)  $-\sqrt{7}$

11. If  $1 - 1 + 1 - 1 + 1 - 1 + \dots$  is in Geometric series. What is the sum of first  $(2x + 1)$  term of the series? [C.B.- 17]

- a) 0                      b) 1  
c) 2                      d) 4

12.  $4 + a + b + 32 + \dots$  then what is the common ratio of the series? [S.B.- 17]

- a) 1                      b) 2  
c) 3                      d) 4

13. If  $2 + a + b + c + 162$  is geometric series then what is the common ratio? [J.B.- 17]

- a) 3                      b) 4  
c) 5                      d) 6

14. Which is the 5<sup>th</sup> term of the Geometric series:  $256 + 128 + 64 + \dots$ ? [D.B.- 16]

- a) 4                      b) 8  
c) 16                      d) 32

15. Which is the term is  $\frac{1}{2}$  of the series:  $128 + 64 + 32 + \dots$ ? [R.B.- 16]

- a) 9<sup>th</sup>                      b) 8<sup>th</sup>  
c) 7<sup>th</sup>                      d) 6<sup>th</sup>

16. What is the common ratio of the series:  $\frac{1}{\sqrt{5}}, -1, \sqrt{5}, \dots$ ? [S.B.- 16]

- a)  $\sqrt{5}$                       b)  $\frac{1}{\sqrt{5}}$   
c)  $-\sqrt{5}$                       d)  $-\frac{1}{\sqrt{5}}$

According to the following information answer the questions No. (17 – 18):  $3 + m + n + 81 + \dots$

17. What is the common ratio of the series? [Ctg.B.- 16]

- a) 3                      b) 4

- c) 9                                  d) 27  
18. If the sum of n terms of the series is 363 then what is the value of n?

[Ctg.B.- 16]

- a) 5                                  b) 4  
c) 3                                  d) 2  
 $1 + \frac{1}{3} + \frac{1}{9} + \dots$ , From the series answer question No. (19 – 20):

19. Find the 7<sup>th</sup> term of the series. [B.B.- 15]

- a)  $\frac{1}{729}$                                   b)  $\frac{1}{243}$   
c)  $\frac{1}{81}$                                   d) -3

20. Find the sum of first eight terms of the series? [B.B.- 15]

- a)  $\frac{364}{243}$                                   b)  $\frac{1093}{729}$   
c)  $\frac{3280}{2187}$                                   d)  $\frac{3260}{2187}$

21. The first term of geometric series is 2 and common ratio is  $\frac{1}{2}$  then 4<sup>th</sup> terms of the series? [D.B.- 15]

- a)  $\frac{1}{16}$                                   b)  $\frac{1}{4}$   
c) 1                                  d) 4

22. Which one is the sum of cubes of first n natural numbers? [R.B.- 15]

- a)  $S_n = \frac{n^2(n+1)^2}{4}$   
b)  $S_n = \frac{n^3(n+1)^3}{8}$   
c)  $S_n = \frac{n(n+1)(2n+1)}{6}$   
d)  $S_n = \frac{n}{2}\{2a + (n-1)d\}$

23. If the geometry series is 3 + a + b + 81 then what is the value of b? [R.B.- 15]

- a) 9                                  b) 12  
c) 18                                  d) 27

24. What is the n<sup>th</sup> term of the series: 4 + 8 + 16 +.....? [Dj.B.- 15]

- a)  $2^{n-1}$                                   b)  $2^{n+1}$   
c)  $8^{n-1}$                                   d)  $8^{n+1}$

25.  $\frac{1}{\sqrt{2}} - 1 + \sqrt{2} - \dots$ .....what is 8<sup>th</sup> term of this series? [C.B.- 15]

- a) -16                                  b) -8  
c) 8                                  d) 32

26. Which one is the common ratio of the sequence:  $\frac{1}{\sqrt{2}}, -1, \sqrt{2} \dots$ ? [Ctg.B.- 15]

- a)  $-\sqrt{2}$                                   b) -1  
c)  $-\frac{1}{\sqrt{2}}$                                   d)  $\sqrt{2}$

27. a, b, c and d are four consecutive four terms of an arithmetic series. Which one of the following?

- a)  $b = \frac{c+d}{2}$                                   b)  $a = \frac{b+c}{2}$   
c)  $c = \frac{b+d}{2}$                                   d)  $d = \frac{a+c}{2}$

28. For  $n \in \mathbb{N}$  then -

- i.  $\sum n = \frac{n^2+n}{2}$   
ii.  $\sum n^2 = \frac{1}{6}n(n+1)(n+2)$   
iii.  $\sum n^3 = \frac{n^2(n^2+2n+1)}{4}$

Which one of the following is correct?

- a) i and ii                                  b) i and iii  
c) ii and iii                                  d) i, ii and iii