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| **CLASS 11** | **APPLIED MATHEMATICS 241** |  |
| **QUESTION BANK** | **CHAPTER::SEQUENCES AND SERIES** |  |

1. If a, b, c are in AP then  
(a) b = a + c  
(b) 2b = a + c  
(c) b² = a + c  
(d) 2b² = a + c

2. The first term of a GP is 1. The sum of the third term and fifth term is 90. The common ratio of GP is  
(a) 1  
(b) 2  
(c) 3  
(d) 4

3. The sum of AP 2, 5, 8, …..up to 50 terms is  
(a) 3557  
(b) 3775  
(c) 3757  
(d) 3575

4.If 2/3, k, 5/8 are in AP then the value of k is  
(a) 31/24  
(b) 31/48  
(c) 24/31  
(d) 48/31

5.If the third term of an A.P. is 7 and its 7 th term is 2 more than three times of its third term, then the sum of its first 20 terms is  
(a) 228  
(b) 74  
(c) 740  
(d) 1090

6. If the sum of the first 2n terms of the A.P. 2, 5, 8, ….., is equal to the sum of the first n terms of the A.P. 57, 59, 61, ….., then n equals  
(a) 10  
(b) 12  
(c) 11  
(d) 13

7. **If “a” is the first term and “r” is the common ratio, then the nth term of a G.P is:**

1. arn
2. arn-1
3. (ar)n-1
4. None of these

8. **If a, b, c are in arithmetic progression, then**

1. b = a+c
2. 2b = a+c
3. b2 = a+c
4. 2b2 = a+c

9. **The sum of arithmetic progression 2, 5, 8, …, up to 50 terms is**

1. 3775
2. 3557
3. 3757
4. 3575

10. **The 3rd term of G.P is 4. Then the product of the first 5 terms is:**

1. 43
2. 44
3. 45
4. None of these

11. **Which of the following is an example of a geometric sequence?**

1. 1, 2, 3, 4
2. 1, 2, 4, 8
3. 3, 5, 7, 9
4. 9, 20, 21, 28

12. **The next term of the given sequence 1, 5, 14, 30, 55, … is**

1. 80
2. 90
3. 91
4. 96

13. **If the nth term of an arithmetic progression is 3n-4, then the 10th term of an A.P is**

1. 10
2. 12
3. 22
4. 26

14. **3, 5, 7, 9 is an example of**

1. Arithmetic sequence
2. Geometric sequence
3. Harmonic sequence
4. Fibonacci sequence

15. **The first term of a G.P is 1. The sum of the 3rd and 5th terms is 90. Then the common ratio is:**

1. 1
2. 2
3. 3
4. 4

2 MARKS QUESTIONS

16. **A man saved Rs. 66000 in 20 years. In each succeeding year after the first year, he saved Rs. 200 more than what he saved in the previous year. How much did he save in the first year?**

**17. A carpenter was hired to build 192 window frames. The first day he made five frames and each day, thereafter he made two more frames than he made the day before. How many days did it take him to finish the job?**

**18. The sum of interior angles of a triangle is 180°. Show that the sum of the interior angles of polygons with 3, 4, 5, 6, … sides form an arithmetic progression. Find the sum of the interior angles for a 21 sided polygon.**

**19. In a cricket tournament 16 school teams participated. A sum of Rs. 8000 is to be awarded among themselves as prize money. If the last placed team is awarded Rs. 275 in prize money and the award increases by the same amount for successive finishing places, how much amount will the first place team receive?**

**20. Find the rth term of an A.P. sum of whose first n terms is 2n +3n2.**

**21.** Write the first five terms of the sequences whose nth term is .

22. Write the first five terms of the sequences whose nth term is an = 2n

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

5.

LONG ANSER QUESTIONS

24. **If 7 times the 7th term of an AP is equal to 11 times its 11th term, show that the 18th term of the AP is zero.**

**25. Find the 28th term from the end of the AP 6, 9, 12, 15, 18, …, 102.**

**26.  Find the sum of all odd integers from 1 to 1001.**

**27.  Insert six arithmetic means between 15 and -13.**

**28. The sum of some terms of a GP is 315. Its first term is 5 and the common ratio is 2. Find the number of its terms and the last term.**

**29.** 150 workers were engaged to finish a job in a certain no. of days. 4 workers dropped out on a second day, 4 more workers dropped out on the third day and so on. It took 8 more days to finish the work and find the no. of days in which the work was completed?

30. Between 1 and 31, m number have been inserted in such a way that the resulting sequence is an A.P. and the ratio of 7th and (m – 1)th numbers is 5:9. Find the value of m.