# CH 1 SERIES

# ANSWERS AND EXPLANATIONS

1.  (d) First letter of each term is + 4 letters ahead of the previous term. Similarly second term is + 5 terms ahead of the previous term.

2.  (b) $A \xrightarrow{2+} C \xrightarrow{2+} E \xrightarrow{2+} G \xrightarrow{2+} I$
    $E \xrightarrow{2+} G \xrightarrow{2+} I \xrightarrow{2+} K \xrightarrow{2+} M$

3.  (b) A B A, B C B, C B C, D C D, E D E.

4.  (b) Each of the numbers is doubled and 1, 2, 3, 4, 5, 6 is added in next term,
    so $89 \times 2 + 6 = 184$.

5.  (c) $16 = 5 \times 3 + 1$, $51 = 16 \times 3 + 3$,
    $158 = 51 \times 3 + 5$
    ∴ Next term = $158 \times 3 + 7 = 481$

6.  (a) Second term is greater than first term by 5, while the third term is less than the second term by 3. The same order is repeated.

7.  (c) After D, 4 letters are skipped and I follows after which 2 letters are skipped Trend flows alternatively :
    D(EFGH) I (JK) L(MNOP) Q (RS) T(UVWX) Y(ZA) B(CDEF) G(HI) J.

8.  (b) There are two alternate series.
    1st series : 3, 4, 5, 6, 7 ........ and so on.
    2nd series : 15, 16, 17,18, 19 ....... and so on.

9.  (b) Ratios of two consecutive terms are
    1, 1/2, 1/3, 1/4, and 1/5 respectively.

10. (d) $BC \xrightarrow{+3} FG \xrightarrow{+3} JK \xrightarrow{+3} \boxed{NO} \xrightarrow{+3} RS$

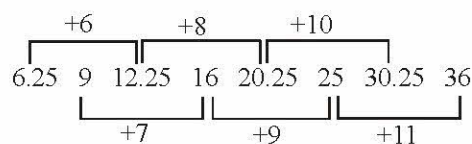11. (a) a a b̲ b / b̲ b̲ a a / a̲ a b b / b b a̲ a.

12. (a) There are two alternate series
    Series I- 6.25, 12.25, 20.25, 30.25
    (sequence is +6, +8, +10)
    Series II- 9, 16, 25, 36,
    (sequence is +7, +9, +11)

| | +6 | | +8 | | +10 | | |
|---|---|---|---|---|---|---|---|
| 6.25 | 9 | 12.25 | 16 | 20.25 | 25 | 30.25 | 36 |
| | | +7 | | +9 | | +11 | |

13. (d) The first letters in odd numbered terms form series J, I, H and in even numbered terms form the series K, L, M. The sequence followed by the numbers is + 2, + 3, + 4, + 5, + 6. The third letter of each term is moved two steps backward to obtain the third letter of the next term.

14. (c) The letters in the first, second, third and fourth terms are respectively moved one, two, three and four steps forward to obtain the letter in the subsequent terms. the sequence followed by the numbers is +3, +5, +7, +9.

15. (b) The first letters of the triplets move 3, 4, 5, 6, 7 .... steps forward.
    The second letters of the triplets move 5, 6, 7, 8, 9 ... steps forward.
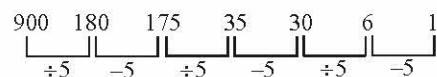    The third letters of the triplets move 7, 8, 9, 10 .... steps forward.
    Hence, the next triplet of alphabets is ZKW.

16. (b) baab/b̲aab/b̲aab

17. (b) c̲abbac/cabbac̲/c̲abbac.

18. (b) Differences between two consecutive terms are 2, 3, 4, 5 and 6 respectively.

19. (d) The sequence followed in the series is ÷ 5, −5 which is repeated.

| 900 | | 180 | | 175 | | 35 | | 30 | | 6 | | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ÷5 | | −5 | | ÷5 | | −5 | | ÷5 | | −5 | |

    ∴ 900 should be in place of 905.

20. (b) The first letter of each term is moved three steps forward and the last letter is moved two steps backward to obtain the corresponding letters of the next term. The numbers follow the sequence $\times 2 + 1$, $\times 2 + 2$, $\times 2 + 3$, $\times 2 + 4$.

So, 10 is wrong and must be replaced by

$(4 \times 2 + 1)$ i.e. 9.

21. (b) There are 2 series :

3, 8, 13, 18, 23 and 2, 12, 22, 32, 42. Hence 9 is wrong.

22. (d) If 27 is replaced by 36, then the ratios of two consecutive terms are 3/2, 2, 5/2, 3, ...

23. (d) a a b b̲ c c d̲ d / a a a̲ b b b c̲ c c d d d

24. (d) The given series consists of 2 series

    (i)    2, 4, 6, 8 ............

    (ii)   2, 4, 8 .............

    Series (i) $\rightarrow$ 2× 1, 2 × 2, 2 × 3 , 2 × 4 .........

    Series (ii) $\rightarrow$ 2, 2× 2, 4 × 2, 8 × 2 = 16 .......

25. (c) Clearly the given series is $1^3 - 1, 2^3 - 1, 3^3 - 1, 4^3 - 1, 5^3 - 1, 6^3 - 1.$

    So, the missing number is $4^3 - 1 = 63$.

26. (c) $1^3 + 1^2 = 2, 2^3 + 2^2 = 12, 3^3 + 3^2 = 36$ and so on
    $\therefore 6^3 + 6^2 = 252$

27. (c) The odd terms are squares of the numbers 1,3,5,.... while the even terms are cubes of the numbers 2,4,6,....

28. (d) The difference in consecutive nos. follows the sequence, 10, 40, 160.

    So the next difference = $160 \times 4 = 640$

    Therefore number = 213 + 640 = 853.

29. (b) The series is

    $2^3 - 1, 3^3 - 1, 4^3 - 1, 5^3 - 1, 6^3 - 1, 7^3 - 1, 8^3 - 1$

30. (a) 2+3 =5, 5+2= 7, 7+5= 12, 12+3 =15, 15+2=17, 17+5= 22. Note that 3,2,5 are being added that order to various numbers to get the next number. Therefore, 3 should be added to 22 to get the answer.

31. (d) The numbers in the series are square of 2,4,6 ...,10,12 . Therefore, the missing number is square of 8 i.e. $8^2$=64.

32. (d) $8 \times 2 - 1 = 15, 15 \times 2 - 2 = 28, 28 \times 2 - 3 = 53, 53 \times 2 - 4 = 102$

33. (d) The common differences between the consecutive terms of the series are 6, 9, 12, 15, etc.

34. (b) C is the 3rd letter, F sixth, I ninth so next letter will be 12th, i.e. L.

    The middle numerics are the squares of 2, 3, 4 and so on. So next numeric would be 25.

    The last letter follow the order : U is 3rd letter after R, X is 3rd after U. So, R would be 3rd letter after 'O'.

    $\therefore$ Missing term = L25O.

35. (c) The given sequence is a combination of two series:

    I. 11, 21, 32, 41, 51 and II. 2, 3, 4, 5, 6

    Clearly, the pattern in I is +10

    So, 32 is wrong and should be replaced by

    (21 + 10)i.e. 31.

36. (a) The first letter of each term is moved three steps forward and the second letter is moved three steps backward to obtain the corresponding letters of the next term.

37. (c) The series is abc/aabc/aabbc/aabbcc/a.

38. (c) The sequence is –11, +9, –7, +5, –3, +1

    So, 86 is wrong and should be replaced by

    (78 + 9) i.e. 87.

39. (a) The numbers are $3 \times 1^2, 3 \times 2^2, 3 \times 3^2, 3 \times 4^2, 3 \times 5^2, 3 \times 6^2, ......$

    $\therefore$ Missing number = $3 \times 7^2 = 3 \times 49 = 147$

40. (c) Clearly, the first, second and third letters of each term are respectively moved one, two and three steps forward to obtain the corresponding letters of the next term. So, the next term is EJO.

41. (a) The first letter of each term is moved one step forward, the second letter is moved four steps backward and the third letter is moved four steps forward to obtain the corresponding letters of the next term.

42. (c) The sequence is +5, +7, ...... .

    So, 24 is wrong and should be replaced by (17 +9) i.e. 26.

43. (c) The series is babb/bbab/bbba/bbbb.

    Thus, in each sequence, 'a' moves one step forward and 'b' takes its place and finally in the fourth sequence, it is eliminated.

44. (e) Observe the first letter of each group. These letters are alternate letters starting from A. Hence, the first letter of the missing group will be G. Similarly, observe second and third letters of each group. Hence, the required group is GWH.

45. (b)  [A]TTRIBUTIO[N] ⇒ TTR BUTIO

[T][T]RIBUTIO ⇒ RIBUTIO

[R]IBUTI[O] ⇒ IBUTI

[I][B]UTI ⇒ UTI

46. (a) SEQUENTIAL, (S)EQUENTIAL, EQUENTI(A)(L), (E)QUENTI QUEN(T)(I)

In the given sequence one letter and two letters are lost alternately.

47. (b) First letters of each group are in the order + 5, + 6, +7 and so on, whereas the last letters of each group are in the order + 6, + 7, + 8 and so on.

48. (d) The first letters in odd numbered terms form series J, I, H and in even numbered terms form the series K, L, M. The sequence followed by the numbers is + 2, + 3, + 4, + 5, + 6. The third letter of each term is moved two steps backward to obtain the third letter of the next term.

49. (b) The first letters of the triplets move 3, 4, 5, 6, 7 .... steps forward.

The second letters of the triplets move 5, 6, 7, 8, 9 ... steps forward.

The third letters of the triplets move 7, 8, 9, 10 .... steps forward.

Hence, the next triplet of alphabets is ZKW.

50. (b) ba_ab/_baab/ba_ab

51. (b) _cabbac/cab_bac/cabba_c.

52. (b) Differences between two consecutive terms are 2, 3, 4, 5 and 6 respectively.

53. (d) The sequence followed in the series is ÷ 5, –5 which is repeated.

900   180   175   35   30   6   1
   ÷5     –5    ÷5    –5    ÷5   –5

∴ 900 should be in place of 905.

54. (b) C is the 3rd letter, F sixth, I ninth so next letter will be 12th, i.e. L.

The middle numerics are the squares of 2, 3, 4 and so on. So next numeric would be 25.

The last letter follow the order : U is 3rd letter after R, X is 3rd after U. So, R would be 3rd letter after 'O'.

∴ Missing term = L25O.

55. (c) The series is abc/a_abc/aa_bbc/aabbcc/a.

56. (c) Clearly, the first, second and third letters of each term are respectively moved one, two and three steps forward to obtain the corresponding letters of the next term. So, the next term is EJO.

57. (a) The first letter of each term is moved one step forward, the second letter is moved four steps backward and the third letter is moved four steps forward to obtain the corresponding letters of the next term.

58. (c) The series is ba_bb/bba_b/bbb_a/bbb_b.

Thus, in each sequence, 'a' moves one step forward and 'b' takes its place and finally in the fourth sequence, it is eliminated.