Chapter - 3

MISSING TERM IN SERIES

Answer Key with **Step-by-Step Solutions**
Includes: All MCQs + **Extra PYQs** with Detailed Explanations

Previous Year Questions

1. $\frac{D}{5}, \frac{G}{9}, \frac{J}{14}, \frac{M}{20}, ?$

   (a) $\frac{Q}{26}$ (b) $\frac{O}{26}$

   (c) $\frac{Q}{27}$ (d) $\frac{P}{27}$

2. DWEV, FUGT, HSIR, ?
   (a) JKQP (b) JPQK
   (c) JQKP (d) JPKQ

3. EV, GT, JQ, ?
   (a) OP (b) LN
   (c) NM (d) MN

4. 313, 623, 933, 1243, ?
   (a) 1863 (b) 2173
   (c) 1553 (d) 2483

5. B2D, E3H, I4M, ?
   (a) N5R (b) N5T
   (c) N5S (d) N5Q

6. Which set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
   a c b - c e - f -
   (a) dde (b) cde
   (c) dee (d) ddg

7. QST __, QS __ R, Q __ TR, __STR
   (a) SQTR (b) RTSQ
   (c) TRQS (d) TSRQ

8. AMV, FQX, KUZ, ?
   (a) PYB (b) OXA
   (c) NYB (d) MYB

9. 27, 32, 30, 35, 33, ?,
   (a) 28 (b) 31
   (c) 36 (d) 38

10. 71, 59, 48, 38, 29, ?,
    (a) 18 (b) 21
    (c) 20 (d) 12

11. a e b d_f j g i_k o l n_
    (a) c m h (b) c h m
    (c) c g m (d) c j l

12. 5255, 5306, _____, 5408, 5459
    (a) 5057 (b) 5357
    (c) 2257 (d) 5157

13. b 3 P, c 6 R, d 12 T, e 24 V, ?
    (a) f 48 X (b) f 46 X
    (c) f 48 W (d) g 48 X

14. $\frac{c}{6}, \frac{e}{10}, \frac{g}{14}, \frac{i}{18}, ?$

    (a) $\frac{k}{22}$ (b) $\frac{k}{11}$

    (c) $\frac{p}{22}$ (d) $\frac{p}{11}$

15. BDFH, IKMO, PRTV, ?
    (a) WYAC (b) WXYA
    (c) WXYZ (d) WYZA

16. 2, 65, 7, 59, 12, 53, ?, ?
(a) 15, 42 (b) 17, 45
(c) 17, 47 (d) 18, 48

17. 1, 2, 8, 33, 148, ?
(a) 265 (b) 465
(c) 565 (d) 765

18. 18, 22, 21, 20, 24, 18, ?
(a) 27 (b) 25
(c) 16 (d) 28

19. AJKTU, BILSV, CHMRW, DGNQX, ?
(a) FEOYZ (b) EFOPY
(c) EOFZA (d) EFOPZ

20. hgf, kji, n ? ?
(a) lp (b) up
(c) oq (d) ml

21. 210, 195, 175, 150, 120, ?
(a) 75 (b) 85
(c) 90 (d) 95

22. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
XY_KX_ZK _YZK XYZ __ __
(a) ZYXKX (b) ZYKXZ
(c) ZKXYK (d) ZXYKZ

23. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
ac __ bd __ ce __df __ egh
(a) d, f, g, e (b) b, d, c, a
(c) d, g, f, e (d) d, e, f, g

24. $\frac{W}{S}, \frac{U}{O}, \frac{S}{K}, \frac{Q}{G}$, ?
(a) P/R (b) C/O
(c) R/J (d) O/C

25. HIIJ, IJJK, JKKL, KLLM, LMMN, ?
(a) LNNO (b) MNNP
(c) NOOP (d) MNNO

26. 1, 1, 6, 6, 11, 11, 16, ? ?
(a) 13, 11 (b) 16, 21
(c) 17, 21 (d) 21, 16

27. 6341, 5432, _____, 3614
(a) 4253 (b) 4614
(c) 4532 (d) 4523

28. 4E, 8I, 13N, 19T, __?
(a) 26U (b) 26A
(c) 262 (d) 25Y

29. h _ eg _ fegh _ eghfe _
(a) gffh (b) hhgg
(c) ffgh (d) fhfg

30. __ 011121 __ 11121 __ 111__
(a) 1002 (b) 1102
(c) 1012 (d) 1211

31. CFI, IKM, OPQ, ___?___
(a) UUU (b) UST
(c) VUS (d) TUV

32. Series : $\frac{AB}{C}, \frac{ZY}{X}, \frac{DE}{F}, \frac{WV}{U}, \frac{GH}{I}$, ___?___
(a) $\frac{SR}{Q}$ (b) $\frac{TS}{R}$
(c) $\frac{ST}{R}$ (d) $\frac{RS}{Q}$

33. 18, 25, 23, 30, ___?___
(a) 25 (b) 35
(c) 28 (d) 38

34. 8, 29, 113, 449, __?__
(a) 673 (b) 984
(c) 1484 (d) 1793

35. Find the next two letters in the given series ?
B C E H L ? ?
(a) XY (b) MN
(c) QW (d) OP

36. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
a__b__a__ __n__bb__abbn
(a) abnabb (b) bnbban
(c) bnbbna (d) babban

37. 3, 4, 7, 11, 18, 29, __?__
(a) 31 (b) 39
(c) 43 (d) 47

38. AGMSY, CIOUA, EKQWC, ___?___, IOUAG, KQWCI
(a) GMSYE (b) FMSYE
(c) GNSYD (d) FMYES

39. 975, 864, 753, 642, ____?____
(a) 431 (b) 314
(c) 531 (d) 532

40. 8, 24, 12, ___?___, 18, 54
(a) 28 (b) 36
(c) 46 (d) 38

41. Which set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
___a___aaaba___ ___ba___ab___
(a) abaaaa (b) abaaba
(c) aababa (d) ababaa

42. a, r, c, s, e, t, g, ___, ___
(a) x, z (b) u, i
(c) w, y (d) v, b

43. (?), PSVYB, EHKNQ, TWZCF, ILORU
(a) BEHKN (b) ADGJM
(c) SVYBE (d) ZCFIL

44. 0, 4, 18, 48, ?, 180
(a) 58 (b) 144
(c) 84 (d) 100

45. 36, 28, 24, 22, ?
(a) 18 (b) 19
(c) 21 (d) 22

46. 7, 9, 13, 21, 37, ?
(a) 58 (b) 63
(c) 69 (d) 72

47. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
ac__cab__baca__ aba__aca__
(a) acbcc (b) aacbc
(c) babbb (d) bcbba

Choose the correct altenative from the given ones that will complete the series :

48. __?__ DREQ, GUHT, JXKW
(a) EFRS (b) TGSF
(c) JWVI (d) AOBN

49. 56, 90, 132, 184, 248, __?__
(a) 368 (b) 316
(c) 362 (d) 326

50. 1, 4, 10, 19, 31, ?
(a) 46 (b) 50
(c) 55 (d) 43

Practice Set Solutions

1. (b); Explanation :
The pattern is –21, –19, –17, –15.....
So, missing term = 113 – 15 = 98.

2. (c); Explanation :
The digits are removed one by one from the beginning and the end in alternate order so as to obtain the subsequent terms of the series.

3. (c); Ans. (c) Only one P follows that condition.

4. (a); There are two combinations present are 195, 413. So answer is 2.

5. (a); the pattern is –45, –35, –25, ...
So, missing term = 28 – 15 = 13.

6. (a); The series consist of alternate letters in reverse order with three place value difference. Hence, next missing term is J.

7. (b); Explanation : The seris consists of squares and cubes of consecutive natural number i.e., 5^2, 6^3, 7^2, 8^3, 9^2, 10^3, 11^2,... So, missing term = 8^3 = 512.

8. (c); In every term, every letter (first, middle, last) increases with next letters. So missing term is QRP.

9. (a); S 14 M ,Clearly, the first letters of the terms ae alternate.
The last letter of each term is three steps ahead of the last letter of the preceding term.
Thus, the next term would be S 14 M. Hence, the answer is (a).

10. (c); Explanation : The pattern is × 2 + 1, × 2 – 1, × 2 + 1, × 2 – 1, ...
so, missing term = 67 × 2 – 1 = 133

11. (c); The pattern is ÷2, +2, ÷2, +2, so next term is 28 / 2=14.

12. (b); The pattern is 0, $+(1)^2$, $+(2)^2$, $+(3)^2$, $+(4)^2$, so next term is 90.

13. (c); Explanation : In first letter decrement of three place values, increment of one place value in second letter and in third letters + 2, + 3, +4.

14. (b); Explanation : First letter increment with six place value and second letter decrease with six values.

15. (b); Explanation : Continuously incerement of natural numbers in place value ...1, 2, 3, 4, ...

16. (a); Explanation : The given sequence is a combination of two series : I, Z, W, T, Q, ? And II. S, O, K, G, ? In first series, letters are continuously decreasing by 3 and in second one there is decrement of 4.

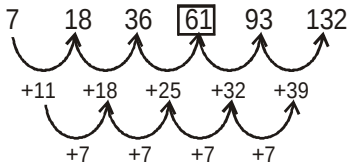
17. (d); It is a combination of 2 series, first series 6, 11, 18, 27, ...Which follow sequence as +5, +7 +9 +11, ...and second series is 11, 20, 31, ..., which follows sequence as +9, + 11, + 13 ...So next, missing term is 13 + 31 = 44.

18. (a); The sequence is bcabca / bcabca / bcabca so missing term is caba.

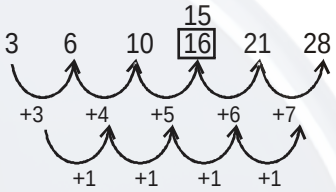
19. (b); The pattern is –66, –55, –44, –33, –22. So missing term is 297 – 55 = 242.

20. (b); The main sequence is lmn, increment of letter is reverse order. The sequence is lmn lmnn lmmn llmn So missing term is mlnml.

21. (b); The difference between dgits are + 12, + 20, + 28, + 36, + 44, so missing term is 99 + 44 = 143.
22. (d); The pattern is – 20, – 25, – 30, ..., So its missing term will be – 10 – 40 = – 50.
23. (b); Consecutive letter no. as +2, +3, +4, +5,..., (no of letter) and upcoming term is increase by place value of +2. So missing term is STUVW.
24. (b); Combination of 2 series and then 1st series is 62, 68, 74, 80, ...,having –6 difference and 2nd series is 57, 52, 47, ..., having –5 so missing term will be 42 and 86.
25. (a); There is oneplace value increment , in first option it follows.
26. (d); In given sequence first letter is decrease by 4, second letter is increased with five place value and 3rd letter decrease with 3 digit.
27. (b); The sequence is –2, +2, –2, +2. So missing terms is RH.
28. (c); The sequence is +101, +202, +404, +808... So, missing term is 858.
29. (d); The sequence is +320, +520, +720,... So, missing term is 2780.
30. (b); Here the respective difference between the terms is as follows :
    2, 4, 6, 8, ...
    Therefore, 12 + 8 = 20
    which is the required term.
31. (c); Here the respective difference between the term is as follows :
    2, 4, 8, 16, 32, 64, ...
    Therefore, the required term will be 67 + 64 = 131
32. (a); Here on adding 1 to the double of the first term we get the next term.
    As required– $3 \times 2 + 1 = 7$
    $7 \times 2 + 1 = 15$
    $15 \times 2 + 1 = 31$
    $31 \times 2 + 1 = 63$
    $63 \times 2 + 1 = 127$
    $127 \times 2 + 1 = 255$
33. (c); The term follow as $(x^4–4)$ where x run as 2, 3, 4,.... So, wrong term is 620.
34. (c); Here, the respective difference between terms is as follows : 5, 10, 15, 20, 25 .....
    As, 7 + 5 = 12
    12 + 10 = 22
    22 + 15 = 37
    ∴ the next term will be = 37 + 20 = 57
35. (d);



36. (b); The difference in lst, 2nd and 3rd digit are follow –1, + 1, – 1 as respectively.
37. (a); The sequence is ×2 + 1, × 3 + 2, × 4 + 3, × 5 + 4..., So term is 719.
38. (a); Here the letter series is as follows–
    acb bca aab baa aab baa
39. (c); Here the letter series is as follows–
    ccd dcn ccd dcn ndd dcn ndd
40. (a);



41. (a); The sequence is + 5, + (5×4), + (20×4), + (80×4), + (320×4). So term is 1715
42. (a); Two series are present one is 12, 24, 44, ... having difference is 12, 20 so next term is 70. Second is 3, 19, 43, ... having difference + 16, + 24 so term is 43.
43. (b); The sequence is +16, +32, +48, + 16, + 32, ... So term is 33.
44. (c); The sequence is $16^2, 5^2, 14^2, 7^2, 12^2, 9^2$. So terms is 144.
45. (d); The sequence is, –(6×5), –(6×4), –(6×3),–(6×2). So term is 16.
46. (a); The sequence is $[(5)^2 – 0]$, $(10^2 – 2^2)$, $(16^2 – 5^2)$, $(23^2 – 9^2)$, $(31^2 – 14^2)$
47. (b); In upper side sequence is +3, +4, +5, +6. ...on denominator the sequence is 2, 4, 8, 16.
48. (a); The sequence is $–1^2, –3^2, –5^2, –7^2, –11^2, –13^2$. So term is 1411.
49. (c); The sequence is +2, +3, +5, +8, +13. So term is 24.
50. (b); $\sqrt{5764801} = \sqrt{2401} \Rightarrow 49$ So, $\sqrt{49} = 7$.
51. (a); The sequence is × 2, –6, × 2, –6, × 2, –6. So term is 132.
52. (c); The sequence is +0.5, +1.5, +2.5, +3.5. So term is 8.7
53. (d); The sequence is +3, ×3, +3, ×3. So, term is 57.
54. (b); The unit place replacement by 6 and alternate decrement of digits so term is 1006.
55. (a); The sequence is (×7+1), (×7+3), (×7+5). So term is 14938.

56. (c); The sequence is $\overset{+11}{\overbrace{-35, -46}}, \overset{+22}{\overbrace{-68}}$. So term is 4768.

57. (d); The sequence is 3, 4, 6, 9, 13, 18 with difference of +1, +2, +3,. So change them into alphabets then term is R.

58. (a); The sequence in alphabet is +1, –1, +1, –1 So term is FKTA.

59. (a); Here is combination of 3 set and their consecutive increment present here. So there is OP.

60. (b); The sequence is +3, –1, +3, –1, +3, –1. So term is R, Q.

61. (a); In this sequence word's letters are arranged in 264135 order. So ITBHRA changed in 264135 sequence then term will be TAHIBR.

62. (c); The given format is roman format of 51, 71, 91, 111, 131. So next term is CLI.

63. (c); Here the sum of unit digit and tenth digit is the 100th digit.

As, 1 + 4 = 5, 4 + 1 = 5

2 + 1 = 3, 3 + 4 = 7

5 + 4 = 9, But in 816

6 + 1 = 7 not 8.

64. (d); The sequence is DMRC | DMRC | DMRC | DMRC. So missing term is MMRM

65. (a); The sequence is Book Now / Book Now / Bo. So missing term ONBNB.

66. (b); ZA YB / ZAYB / ZAYB. So missing term is ZBAZB.

67. (c); The sequence is baamb / baamb / baamb. So sequence is ambab.

68. (d); The sequence is ababbma / ababbma / ababb. So missing term is ambma.

69. (a); The pattern is × 1.5, × 1.5, × 1.5, × 1.5. So missing term is 87.75.

70. (b); The pattern is $\overset{+7}{\overbrace{+85, +92}}, \overset{+7}{\overbrace{+99, +106}}, \overset{+7}{\overbrace{+113, +120}}$.

So missing term is 642.

71. (a);

3 C	+3 →	6 F	+3 →	9 I	+3 →	12 L
13 M	+3 →	16 P	+3 →	19 S	+3 →	22 V
7 G	+3 →	10 J	+3 →	13 M	+3 →	16 P

72. (b); The pattern is ×1, × 2.5, × 4, × 5.5, × 7. So 55 × 4=220, then missing term is 1210.

73. (a); The pattern is $\left(\times\frac{1}{2}+0.5\right), +\left(\times\frac{1}{2}+0.5\right), +\left(\times\frac{1}{2}+0.5\right)$. So missing term is 19.125.

74. (c); The patter is ÷5, ÷2.5, ÷5, ÷2.5. So missing term is 644.

75. (b); The sequence is (×3, +2 × 3), (×4, +3 × 4), (×5, +4 × 5). So, missing term is 16212.

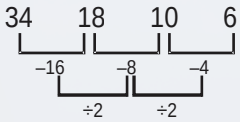
76. (d); The pattern is add one in previous term and then multiplication with natural numbers. Example:

(a +1) × 1 = 10, (10 +1) × 2 = 22, (22 + 1) × 3 = 69

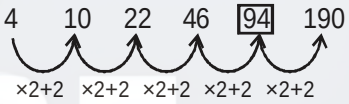
So missing term is 22.

77. (c); The pattern is 10^6, 9^5, 8^4, 7^3, 6^2, 5^1. So missing term is 343.

78. (d);



79. (d);



80. (a); The pattern is (×15 – 14), (×14 – 13), (×13 – 12), (×12 – 11). So missing term is 1681.

Distinct Solutions

81. (d); Explanation : Each term in the series is obtained by adding 1 to the square of the preceding term. So, missing term = $(26)^2 + 1 = 677$.

82. (b); Explanation : Clearly, 3 × 3 = 9, 9 × 3 = 27, 27 × 3 = 81, ..So, the series is in G.P. in which a = 3, r = 3. Therefore 8th term = $ar^{8-1} = ar^7 = 3 \times 3^7 = (3 \times 2187) = 6561$.

83. (b); Explanation : The pattern is × 2, × 3 / 2, × 2, × 3 / 2, × 2, ...So, missing term = 18 × 3 / 2 = 27.

84. (a); Explanation : The pattern is +1, +3, +6, ... i.e. +1, +(1 + 2), + (1 + 2 + 3), ..., So, missing term = 27 + (1 + 2 + 3 + 4 + 5) = 42.

85. (b); Explanation : The sun of any three consecutive terms of the series gives the next term, So, missing number = 6 + 12 + 22 = 40.

86. (c); Alphabetical series are having place value as 1, 2, 3, 5, 7, 11, 13 are prime numbers. So missing terms is M.

87. (d); The pattern is ×2 + 4, × 3 + 4, ×4 +4, ×5 +4 ... So missing term is 18 × 3 + 4 = 58.

88. (b); The alphabet is changed with their place value then these are 225, 256, 289, 324,..., Which are square value of 15, 16, 17, 18,. So, next term is CBD.

89. (c); The sequence is × 0.5 + 1.5, × 1 + 1.5, × 1.5 + 1.5. So, missing term is 9.

90. (d); The sequence is ÷ 6, ÷ 5, ÷ 4, ÷ 3. So missing term is 0.55

91. (a); The sequence is $+2^2$, $+2^4$, $+2^6$, $+2^8$, ... So, second term is 23 not 22.

92. (b); Here the series is as follows :

$1^2 - 2 = -1$ $4^2 - 2 = 14$

$2^2 - 2 = 2$ $5^2 - 2 = 23$

$3^2 - 2 = 7$ $6^2 - 2 = 34$

93. (a); The sequence is ×3, + 4, + 5, + 6, × 7, + 8. So term is 40.

94. (d); The sequence is – 15, + 14, – 13, + 12, –11. So term is 70.

95. (a); On looking from the end, we find that the difference between the numbers is respectively 26, 22, 18, 14, 10, 6. Therefore, 8 should come in place of 6.

96. (b); The sequence is –1, +5, –9, +13 in first letter and in second letter, sequence is –5, +9, –13, +17. So next missing term is EC.

97. (d); The pattern is ×2 –3, × 3 – 4, × 4 –5, × 5 – 6, × 6 – 7. So missing term is 1263.

98. (b); The pattern is (×1 + 7 ×1), (×2 + 6× 2), (×3 +5 ×3). So missing term is 141.

99. (c); There is 15 days difference in between two given data.

100. (a); The sequence is +8, +(8 + 10), + (18 + 20), + (38 + 40) + (78 + 80) So term is 305.

Previous Year Solutions

1. (d); D $\xrightarrow{+3}$ G $\xrightarrow{+3}$ J $\xrightarrow{+3}$ M $\xrightarrow{+3}$ P

$\overline{5} \xrightarrow[+4]{} \overline{9} \xrightarrow[+5]{} \overline{14} \xrightarrow[+6]{} \overline{20} \xrightarrow[+7]{} \overline{27}$

2. (c); D $\xrightarrow{+2}$ F $\xrightarrow{+2}$ H $\xrightarrow{+2}$ J

W $\xrightarrow{-2}$ U $\xrightarrow{-2}$ S $\xrightarrow{-2}$ Q

E $\xrightarrow{+2}$ G $\xrightarrow{+2}$ I $\xrightarrow{+2}$ K

V $\xrightarrow{-2}$ T $\xrightarrow{-2}$ R $\xrightarrow{-2}$ P

3. (c); The gap between E,G,J is +2, +3. Similarly the gap between V, T, Q is –2, –3. So, new group will be + 4 from J and – 4 from Q. Hence, it will be NM.

4. (c); 313 623 933 1243 [1553]

+310 +310 +310 +310

5. (c); B $\xrightarrow{+3}$ E $\xrightarrow{+4}$ I $\xrightarrow{+5}$ N

2 $\xrightarrow{+1}$ 3 $\xrightarrow{+1}$ 4 $\xrightarrow{+1}$ 5

D $\xrightarrow{+4}$ H $\xrightarrow{+5}$ M $\xrightarrow{+6}$ S

6. (a); a c b [d] c e [d] f [e]

7. (b); QST [R] / QS [T] R / Q [S] TR / [Q] STR

8. (a); A $\xrightarrow{+5}$ F $\xrightarrow{+5}$ K $\xrightarrow{+5}$ P

M $\xrightarrow{+4}$ Q $\xrightarrow{+4}$ U $\xrightarrow{+4}$ Y

V $\xrightarrow{+2}$ X $\xrightarrow{+2}$ Z $\xrightarrow{+2}$ B

9. (d); 27 32 30 35 33 [38]

+5 +5 +5 (–2, –2)

10. (b); 71 59 48 38 29 21

–12 –11 –10 –9 –8

11. (b); aebd [c] / fjgi [h] / ko ln [m]

12. (b); 5255 5306 [5357] 5408 5459

+51 +51 +51 +51

13. (a); b $\xrightarrow{+1}$ c $\xrightarrow{+1}$ d $\xrightarrow{+1}$ e $\xrightarrow{+1}$ f

3 $\xrightarrow{\times 2}$ 6 $\xrightarrow{\times 2}$ 12 $\xrightarrow{\times 2}$ 24 $\xrightarrow{\times 2}$ 48

P $\xrightarrow{+2}$ R $\xrightarrow{+2}$ T $\xrightarrow{+2}$ V $\xrightarrow{+2}$ X

14. (a); c $\xrightarrow{+2}$ e $\xrightarrow{+2}$ g $\xrightarrow{+2}$ i $\xrightarrow{+2}$ k

6 $\xrightarrow{+4}$ 10 $\xrightarrow{+4}$ 14 $\xrightarrow{+4}$ 18 $\xrightarrow{+4}$ 22

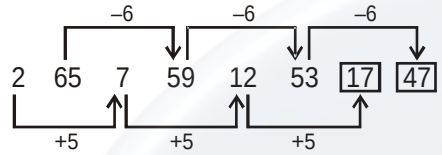
15. (a); B $\xrightarrow{+7}$ I $\xrightarrow{+7}$ P $\xrightarrow{+7}$ W

D $\xrightarrow{+7}$ K $\xrightarrow{+7}$ R $\xrightarrow{+7}$ Y

F $\xrightarrow{+7}$ M $\xrightarrow{+7}$ T $\xrightarrow{+7}$ A

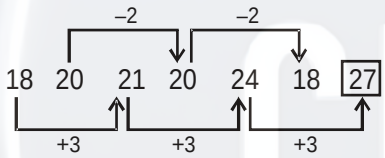
H $\xrightarrow{+7}$ O $\xrightarrow{+7}$ V $\xrightarrow{+7}$ C

16. (c);



17. (d); $1 \times 1 + (1)^2 = 1 + 1 = 2$;
$2 \times 2 + (2)^2 = 4 + 4 = 8$;
$8 \times 3 + (3)^2 = 24 + 9 = 33$;
$33 \times 4 + (4)^2 = 132 + 16 = 148$;
$148 \times 5 + (5)^2 = 740 + 25 = 765$

18. (a);



19. (b); A $\xrightarrow{+1}$ B $\xrightarrow{+1}$ C $\xrightarrow{+1}$ D $\xrightarrow{+1}$ E

J $\xrightarrow{-1}$ I $\xrightarrow{-1}$ H $\xrightarrow{-1}$ G $\xrightarrow{-1}$ F

K $\xrightarrow{+1}$ L $\xrightarrow{+1}$ M $\xrightarrow{+1}$ N $\xrightarrow{+1}$ O

T $\xrightarrow{-1}$ S $\xrightarrow{-1}$ R $\xrightarrow{-1}$ Q $\xrightarrow{-1}$ P

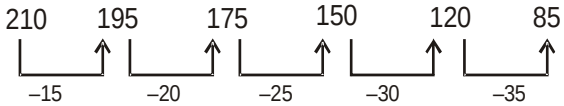
U $\xrightarrow{+1}$ V $\xrightarrow{+1}$ W $\xrightarrow{+1}$ X $\xrightarrow{+1}$ Y

20. (d); h $\xrightarrow{+3}$ k $\xrightarrow{+3}$ n

g $\xrightarrow{+3}$ j $\xrightarrow{+3}$ m

f $\xrightarrow{+3}$ i $\xrightarrow{+3}$ l

21. (b);



22. (a); XY [Z] K / X [Y] ZK /

[X] YZK / XYZ [K] / [X]

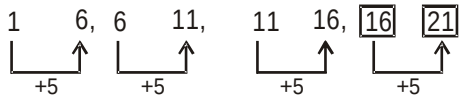
23. (d); a c [d] / b d [e] / c e [f] / d f [g] / e g h

24. (d); W $\xrightarrow{-2}$ U $\xrightarrow{-2}$ S $\xrightarrow{-2}$ Q $\xrightarrow{-2}$ O

S $\xrightarrow{-4}$ O $\xrightarrow{-4}$ K $\xrightarrow{-4}$ G $\xrightarrow{-4}$ C

25. (d); Obviously, the next term will be MNNO.

26. (b);



27. (d); 6 $\xrightarrow{-1}$ 5 $\xrightarrow{-1}$ 4 $\xrightarrow{-1}$ 3

3 $\xrightarrow{+1}$ 4 $\xrightarrow{+1}$ 5 $\xrightarrow{+1}$ 6

4 $\xrightarrow{-1}$ 3 $\xrightarrow{-1}$ 2 $\xrightarrow{-1}$ 1

1 $\xrightarrow{+1}$ 2 $\xrightarrow{+1}$ 3 $\xrightarrow{+1}$ 4

28. (b); 4 $\xrightarrow{+4}$ 8 $\xrightarrow{+5}$ 13 $\xrightarrow{+6}$ 19 $\xrightarrow{+7}$ [26]

E $\xrightarrow{+4}$ I $\xrightarrow{+5}$ N $\xrightarrow{+6}$ T $\xrightarrow{+7}$ [A]

29. (d); h [f] eg / [h] fe g / h [f] eg / hfe [g]

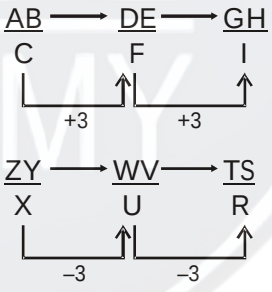
30. (a); [1] 01112 / 1 [0] 1112 / 1 [0] 111 [2]

31. (a); C $\xrightarrow{+6}$ I $\xrightarrow{+6}$ O $\xrightarrow{+6}$ U

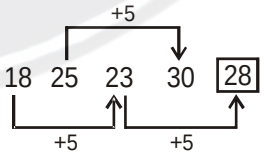
F $\xrightarrow{+5}$ K $\xrightarrow{+5}$ P $\xrightarrow{+5}$ U

I $\xrightarrow{+4}$ M $\xrightarrow{+4}$ Q $\xrightarrow{+4}$ U

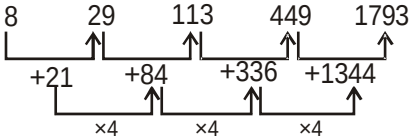
32. (b);



33. (c);



34. (d);



35. (c); B $\xrightarrow{+1}$ C $\xrightarrow{+2}$ E $\xrightarrow{+3}$ H

H $\xrightarrow{+4}$ L $\xrightarrow{+5}$ Q $\xrightarrow{+6}$ W

36. (b); a [b] b [n] / a [bb] n / [a] bb [n] / abbn

37. (d); 3 + 1 = 4; 3 + 4 = 7;
4 + 7 = 11; 7 + 11 = 18
11 + 18 = 29; 18 + 29 = 47

38. (a); $A \xrightarrow{+2} C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} I \xrightarrow{+2} K$

$G \xrightarrow{+2} I \xrightarrow{+2} K \xrightarrow{+2} M \xrightarrow{+2} O \xrightarrow{+2} Q$

$M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} S \xrightarrow{+2} U \xrightarrow{+2} W$

$S \xrightarrow{+2} U \xrightarrow{+2} W \xrightarrow{+2} Y \xrightarrow{+2} A \xrightarrow{+2} C$

$Y \xrightarrow{+2} A \xrightarrow{+2} C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} I$

39. (c); 975 (−111) 864 (−111) 753 (−111) 642 (−111) [531]

40. (b); 8 (×3) 24 (÷2) 12 (×3) [36] (÷2) 18 (×3) 54

41. (a); a a b a / aaba / aa ba / a aba

42. (b); There are two alternative series :

$a \xrightarrow{+2} c \xrightarrow{+2} e \xrightarrow{+2} g \xrightarrow{+2} i$

$r \xrightarrow{+1} s \xrightarrow{+1} t \xrightarrow{+1} u$

Therefore, ? = ui

43. (b); $P \xrightarrow{+3} S \xrightarrow{+3} V \xrightarrow{+3} Y \xrightarrow{+3} B$

$E \xrightarrow{+3} H \xrightarrow{+3} K \xrightarrow{+3} N \xrightarrow{+3} Q$

$T \xrightarrow{+3} W \xrightarrow{+3} Z \xrightarrow{+3} C \xrightarrow{+3} F$

$I \xrightarrow{+3} L \xrightarrow{+3} O \xrightarrow{+3} R \xrightarrow{+3} U$

Now, $P \xrightarrow{+4} T$, $E \xrightarrow{+4} I$

Therefore, the first letter of the first term should be

$E \xrightarrow{-4} A$

$A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J \xrightarrow{+3} M$

44. (d); 0 (+4) 4 (+14) 18 (+30) 48 (+52) [100] (+80) 180
(+10) (+16) (+22) (+28)
(+6) (+6) (+6)

45. (c); 36 (−8) 28 (−4) 24 (−2) 22 (−1) [21]

46. (c); 7 (+2) 9 (+4) 13 (+8) 21 (+16) 37 (+32) [69]
(×2) (×2) (×2) (×2)

47. (b); ac [a] c / ab [a] b / a c a
[c] / aba [b] / a c a [c]

48. (d); $A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J$
$O \xrightarrow{+3} R \xrightarrow{+3} U \xrightarrow{+3} X$
$B \xrightarrow{+3} E \xrightarrow{+3} H \xrightarrow{+3} K$
$N \xrightarrow{+3} Q \xrightarrow{+3} T \xrightarrow{+3} W$

49. (d); 56 (+34) 90 (+42) 132 (+52) 184 (+64) 248 (+78) [326]
(+8) (+10) (+12) (+14)
(+2) (+2) (+2)

50. (a); The difference between the consecutive terms is 3, 6, 9, 12, 15.