CLAT- Number System and Simplification

1. Find the Unit's place digit 122^{173}.
   (a) 2 (b) 4
   (c) 6 (d) 8
2. Find the Unit place digit in $7^{37} \times 38^{54} \times 817^{93} \times 777^{777}$
   (a) 7 (b)4
   (c) 2 (d) 6
3. Find the unit's place digit in $98^{98} + 73^{73} + 89^{125} + 679^{537}$
   (a) 5 (b) 1
   (c) 9 (d) 8
4. Find the unit's place digit in $(223)^{444} - (989)^{989} - (548)^{179} + (344)^{345}$
   (a) 2 (b) 3
   (c) 4 (d) 6
5. Find the unit's place digit in $(3.45)^{345}+(9.99)^{999}+(64.4)^{44}$
   (a) 2 (b) 0
   (c) 3 (d)Can not Determine
6. When $69^{67}$is divided by 68, then what is Remainder?
   (a) 0 (b) 1
   (c) 67 (d) 68
7. When $17^{200}$is divided by 18, then what is remainder?
   (a) 2 (b) 17
   (c) 1 (d) 18
8. When 192^{193} is divided by 193 then what is Remainder?
   (a) 192 (b) 191
   (c) 193 (d) 1
9. If $(67^{67}$ +67) is divided by 68 then what is remainder ?
   (a) 1 (b) 0
   (c) 66 (d) 67
10. If $(59^{167}$+5) is divided by 60 then what is Remainder?
    (a) 5 (b) 4
    (c) 59 (d) 60
11. On dividing a number by 357, we get 39 as remainder on dividing the same number by 17 what will be remainder
    (a) 0 (b) 3
    (c) 5 (d) 11
12. A number divided by 56 gives 29 as remainder of the same number is divided by 8 the remainder will be
    (a) 4 (b) 5
    (c) 6 (d) 7
13. When a number is divided by 779 we get a remainder of 47. What remainder will be obtained by dividing the same number by 19?
    (a) 6 (b) 7
    (c) 9 (d) 11
14. If the number 481*673 is completely divisible by 9 then the smallest number in place of * will be
    (a) 2 (b) 5
    (c) 6 (d) 7
15. Which one of the following numbers is exactly divisible by 11?
    (a) 235641 (b) 245642
    (c) 315624 (d)415624
16. What smallest number should be added to 4456, so that the sum is completely divisible by 6 ?
    (a) 4 (b) 3
    (c) 2 (d) 1
17. The sum of all natural number from 51 to 100 is
    (a) 5050 (b) 4275
    (c) 4025 (d) 3775
18. The sum of first 35 odd natural number is equal to
    (a) 1225 (b) 1325
    (c) 1125 (d) 1425

19. $1^2+2^2+3^2+4^2+.....+22^2$ is equal to.
(a)4795 (b) 3795
(c)2795 (d) 5795

20. $1^3+2^3+3^3+.....+11^3$is equal to.
(a) 3356 (b) 4356
(c)5356 (d) 6356

21. If $2^{x+1}=4^{x-3}$ find x.
(a) 6 (b) 7
(c) 8 (d) 4

22. If $9^{2x-1}=27^{x+2}$ then x is equal to
(a) 2 (b) 4
(c) 8 (d)16

23. If $5^{x-3}\times3^{2x-8}=225$ find x.
(a) 6 (b) 5
(c) 4 (d) 3

24. If $2^{x-7}\times5^{x-4}=1250$ find x.
(a) 2 (b) 4
(c) 6 (d) 8

25. The value of
$\sqrt{17+\sqrt{51+\sqrt{152+\sqrt{289}}}}$ is
(a) 11 (b) 5
(c) 7 (d) 9

26. The value of $\sqrt{234-\sqrt{73+\sqrt{69-\sqrt{25}}}}$
is
(a)15 (b) 18
(c) 12 (d) 17

27. The value of
$\sqrt{133+\sqrt{124-\sqrt{2+\sqrt{63-14}}}}$ is
(a) 7 (b) 12
(c) 17 (d) 19

28. The value of $\sqrt{41-\sqrt{21+\sqrt{19-\sqrt{9}}}}$ is
(a) 3 (b) 5
(c) 6 (d) 4

29. The value of $\sqrt{72+\sqrt{72+\sqrt{72+\cdots}}}\infty$
is
(a) 8 (b) 9
(c) 7 (d) 6

30. The value of $\sqrt{42-\sqrt{42-\sqrt{42+\cdots}}}\infty$
is
(a) 6 (b) 7
(c) 8 (d) 9

31. The value of $\sqrt{7\sqrt{7\sqrt{7\ldots}}}\infty$ is
(a) 6 (b) 7
(c) 8 (d) 9

32. The value of $1+\frac{1}{1+\frac{1}{1+\frac{1}{1+\frac{3}{4}}}}$
(a) $\frac{29}{18}$ (b) $\frac{18}{29}$
(c) $\frac{17}{29}$ (d)$\frac{29}{17}$

33. The value of $1+\frac{1}{1-\frac{1}{1-\frac{1}{1+\frac{3}{5}}}}$
(a) $\frac{2}{5}$ (b)$\frac{5}{2}$
(c) $\frac{3}{5}$ (d)$\frac{5}{3}$