NATIONAL MANAGEMENT COLLEGE, THUDUPATHI.

PAPER – 3: BUSINESS MATHEMATICS, LOGICAL REASONING AND STATISTICS

Time Allowed : ½ hour **Maximum Marks: 25**

1)If $\log_{10} 3 = x$, $\log_{10} 4 = y$, then the value of $\log_{10} 120$ =

a) $x - y + 1$ b)) $x + y - 1$ c)) $x + y + 1$ d)) $2x - y + 1$

2)$\left(\frac{3a}{2b}\right)^{2x-4} = \left(\frac{2b}{3a}\right)^{2x-4}$ for some a and b , then the value of x is

a) 8 b) 6 c) 4 d) 2

3) . if the ratio of two numbers is 7 : 11. If 7 is added to each number then the new ratio will be 2 : 3 then the numbers are.

(a) 49, 77 (b) 42, 45 (c) 43,42 (d) 39, 40

4) $\log_{2\sqrt{2}} (512) : \log_{3\sqrt{2}} (324)$ then,

(a) 128 : 81 (b) 2 : 3 (c) 3 : 2 (d) None

5) Then the value of

$\log_5\left(1+\frac{1}{5}\right) + \log_5\left(1+\frac{1}{6}\right) + \log_5\left(1+\frac{1}{7}\right)$ + ...$\log_5\left(1+\frac{1}{624}\right)$

a) 2 b)3 c)5 d) none of these

6) The two numbers are in ratio 3 : 4. The difference between their squares is 28. Find the greater number

. (a) 12 (b) 8 (c) 16 (d) 10

7) In a class there are 30 boys and 12 girls. Determine the ratio of number of boys to girls.

a) 2 : 5 b) 3 : 6 c) 5 : 6 d) 5 : 2

8) A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?

a)Rs. 500 b) Rs. 1500 c)Rs. 2000 d)None of these

9) Find sum of all values of "a" ,

$2^{log_7|a+9|} = \log_7 2401$

a) -2 b) -12 c)-18 d) -6

10) $x^{1-x} = y$, $y^{1-y} = z$, $z^{1-z} = x$ then all x, y, z are greater than 0 , then $xy + yz =$

a)$x + y + z + xyz - xz$ b) $y + z + xy$

c) $x - y + xz$ d) $x + y + z - xyz$

11) . The ratio of the present age of father to that of son is 7:2. After 10 years their ages will be in the ratio of 9:4. The present ages of the father is

a. 35 years b. 40 years c. 30 years d. 25 years

12) Price of each article of type P, Q, and R is Rs. 300, Rs. 180 and Rs. 120 respectively. Suresh buys articles of each type in the ratio 3:2:3 in Rs. 6480. How many articles of type Q did he purchase?

a. 8 b. 14 c. 20 d. None

13) .If the ratio of present ages of Jeet and Jay is 5:7 and after 6 years the ratio will be 3:4, what is the present age of Jay?

a. 42 b. 30 c. 36 d. None of these

14) The triplicate ratio of 1:2 is?

a. 8:1 b. 1:8 c. 2:1 d. 1:2

15) . The compound ratio of 5:6, 3:2 and 4:5?

a. 12:13 b. 1:4 c. 1:5 d. 1:1

16) $\frac{\log\sqrt{8}}{log8}$ value

a) 1/6 b) 1/2 c) 1/3 d) 1/8

17) . log 144 =

a) 2 log 4 + 2 log 2 b) 4 log 2 + 2 log 3

c) 3 log 2 + 4 log 3 d) 3 log 2 – 4 log 3

18) For p, q, r ,s > 0 for value of each ratio is

$$\frac{p}{q+r} = \frac{q}{r+s} = \frac{r}{s+p} = \frac{s}{p+q}$$

a)1/2 b) 1/3

19. The mean proportional between 24 and 54 is

a) 33 b) 34 c) 35 d) 36

20) . Which of the numbers are not in proportion ?

a) 6 , 8 , 5 , 7 b) 7 , 3 , 14 , 6

c) 18 , 27 , 12 , 18 d) 8 , 6 , 12 , 9

21) $\log_{0.01}(10{,}000) = x$; Find the value of x?

(a) 1 (b) – 2

(c) – 4 (d) 2

22) What number is to added each of the ratio 7:9 to equal 15:16 ?

(a) 23 (b) 16 (c) 31 (d) 13

23) . If $4^x = 5^y = 20^z$ then z is equal to

a) xy b) $\frac{x+y}{xy}$ c) $\frac{1}{xy}$ d) $\frac{xy}{x+y}$

24) . If $2^x - 2^{x-1} = 4$ then $X^x =$

a) 7 b) 3 c) 27 d) 9

25) . Find the value of x, if $x\,(x)^{1/2} = (x^{1/2})^x$

a). 3 b) 4 c) 2 d) 6