Number System and Operations

QUESTIONS

- 1. Which among the following statements is incorrect?
 - (a) Multiplicative inverse of 0 is not defined.
 - (b) Every rational has a reciprocal.
 - (c) The product of a non-zero rational number and its reciprocal is 1.
 - (d) The idea of mean helps us to find rational numbers between two given rational numbers.
 - (e) None of these
- 2. If 24 shirts of equal size can be made out of 30m of cloth, how much cloth is required for making 17 shirts?

(a) 22.25 m	(b) 21.25 m
(c) 24.45 m	(d) 26.45 m

- (e) None of these
- **3.** Identify the rational number which does not belong with the other three.

$\frac{-4}{5}, \frac{-3}{7}, \frac{-2}{9}, \frac{9}{-11}, \frac{7}{-10}$	
(a) $\frac{-4}{5}$	(b) $\frac{-3}{7}$
(c) $\frac{-2}{9}$	(d) $\frac{9}{-11}$

- (e) None of these
- **4.** Which among the following statements is incorrect for any three numbers m, n and p?
 - (a) If m > n and p < n then p > m
 - (b) If m > n and $p \neq 0$ then m + p > n + p
 - (c) If m > n and n > p then m > p
 - (d) If m > n and p < 0 then mp > np
 - (e) None of these
- **5.** Every composite number has _____
 - (a) three factors (b) atleast two factors
 - (c) atleast three factors (d) more than three factors
 - (e) None of these
- **6.** Which among the following number is not divisible by 182?
 - (a) 309400 (b) 993720
 - (c) 159562 (d) 527800
 - (e) None of these
- 7. A perfect number is the number for which sum of all its factors is equal to_____
 - (a) one less than twice the number(b) one more than twice the number(c) twice the number(d) one less than twice the number
 - (e) None of these

8.	Which among the following is not a rational number between $\frac{9}{-23}$ and $\frac{-7}{9}$?		
	(a) $\frac{-121}{207}$	(b) $\frac{-80}{207}$	
	(c) $\frac{-160}{207}$	(d) $\frac{-306}{414}$	
	(e) None of these		
9.	If $2^n - 1$ is a prime number , then $2^{n-1}(2^n - 1)$ is	·	
	(a) a prime number	(b) a super number	
	(c) a perfect number	(d) an odd number	
	(e) None of these		
10.	Which among the following is not a perfect number?		
	(a) 6	(b) 28	
	(c) 496	(d) 120	
	(e) None of these		
11.	Find the unit's digit in the product of the first 100 odd natural numbers.		
	(a) 0	(b) 1	
	(c) 3	(d) 5	
	(e) None of these		
12.	Which among the following pair of numbers is no	ot twin primes?	
	(a) 13 and 11	(b) 5 and 7	
	(c) 29 and 23	(d) 3 and 5	
	(e) None of these		
13.	Which among the following pair of numbers are o	co-primes?	
	(a) 204 and 189	(b) 10353 and 1073	
	(c) 3553 and 1755	(d) 2233 and 3689	
	(e) None of these		
14.	How many composite numbers are there in betw	een 150 and 200 both)?	
	(a) 40	(b) 42	
	(c) 41	(d) 39	
	(e) None of these		
15.	The HCF and LCM of two numbers are 16 336	respectively. If one of them is 48, then find the other.	
	(a) 116	(b) 112	
	(c) 118	(d) 158	
	(e) None of these		
16.	If 3a52895b7 is exactly divisible by 3 and 11 bot	h, then find the value of a $+$ b. (where a and b are digits from 0 to	

^{9.)}

	(a) 6	(b) 9		
	(c) 12	(d) 15		
	(e) None of these			
17.	Find the LCM of the least 4-digit number and the greatest 4-digit even number.			
	(a) 9998000	(b) 4567800		
	(c) 4999000	(d) 260000		
	(e) None of these			
18.	The greatest five digit number exactly divisible by 7 and 23 both is			
	(a) 99995	(b) 99981		
	(c) 99974	(d) 99988		
	(e) None of these			
19.	How many pairs of co-primes can	How many pairs of co-primes can be formed from the set {2, 5, 6, 7, 8, 9, 12}.		
	(a) 14	(b) 13		
	(c) 12	(d) 18		
	(e) None of these			
20.	Find the unit's digit in the product	of the first 50 even natural numbers.		
	(a) 2	(b) 4		
	(c) 6	(d) 0		
	(e) None of these			
21.	How many prime numbers are of the form $3m+2$, where $1 \le m \le 20$?			
	(a) 6	(b) 7		
	(c) 8	(d) 9		
	(e) None of these			
22 .	If the eight digit number 28357a5	If the eight digit number 28357a59 is exactly divisible by 111, then find the least possible value of a.		
	(a) 0	(b) 1		
	(c) 2	(d) 3		
	(e) None of these			
23.	How many different positive integers are there in between 10^5 and 10^6 , the sum of whose digits is equal to 2?			
	(a) 5	(b) 6		
	(c) 8	(d) 11		
	(e) None of these			
24.	The greatest number, which leaves remainders 3 and 5 on dividing 523 and 429 respectively, is			
	(a) 6	(b) 12		
	(c) 8	(d) 14		
	(e) None of these			
25.	Find the sum of 3.333333	+ 5.55555555		

	(a) $\frac{80}{9}$	(b) $\frac{80}{11}$
	(c) $\frac{70}{9}$	(d) $\frac{88}{10}$
	(e) None of these	
26.	How many factors of $2^6 \times 3^7 \times 5^3$ are perfect	squares?
	(a) 32	(b) 16
	(c) 64	(d) 28
	(e) None of these	
27.	Find the multiplicative inverse of $(a+2) + \frac{2}{(a-2)}$	$\frac{1}{2}$.
	(a) $\frac{a}{(a+2)}$	(b) $\frac{a^2}{a-2}$
	(c) $\frac{(a-2)}{a^2}$	(d) $\frac{a}{(a-2)}$
	(e) None of these	
28.	If $*$ 35624 is divisible by 11, then the value of	* is
	(a) 3	(b) 4
	(c) 6	(d) 8
	(e) None of these	
29.	The product of three consecutive natural numb	pers will be divisible by
	(a) 3	(b) 9
	(c) 15	(d) 6
	(e) None of these	
30.	The sum of digits of a two digit number is 7 an	d their product is 12, what will be the difference of two digits?
	(a) 4	(b) 1
	(c) 2	(d) 3
	(e) None of these	
31.	The unit digit of (8127) ¹⁷³ is	
	(a) 1	(b) 9
	(c) 3	(d) 7
	(e) None of these	
32.	Simplify: $\frac{(539 + 733)^2 + (733 - 539)^2}{733 \times 733 + 539 \times 539}$	
	(a) 1	(b) 1466
	(c) 1078	(d) 2
	(e) None of these	

33.	The difference of squares of two consecutive numbers is 31. The numbers are		
	(a) 16 and 18	(b) 16 and 17	
	(c) 15 and 16	(d) 17 and 18	
	(e) None of these		
34.	The unit digit of $(7^{95} - 3^{58})$ is		
	(a) 7	(b) 1	
	(c) 4	(d) 9	
	(e) None of these		
35.	Choose the greatest number among the following:		
	(a) $[(3+3)^2]^2$	(b) $[3 \times 3 \times 3]^2$	
	(c) $[3 \div 3 + 3]^3$	(d) $3^3 + 3^3$	
	(e) $[3^2 + 3^2]^3$		
36.	If the sum of two numbers a and b is equal to dou	uble of a, then value of b will be	
	(a) greater than a	(b) less than a	
	(c) equal to a	(d) more than 10	
	(e) None of these		
37.	The least square number which is divisible by 8, 12 and 16 is		
	(a) 256	(b) 324	
	(c) 144	(d) 288	
	(e) None of these		
38.	In a question of division, divisor is 9, Quotient is 114 and remainder is 5, then the dividend is		
	(a) 1121	(b) 1331	
	(c) 1031	(d) 1271	
	(e) None of these		
39.	If a positive integer is multiplied by 4, then the pro-	oduct is equal to the cube of that integer. Find the integer.	
	(a) 16	(b) 54	
	(c) 2	(e) 128	
	(e) None of these		
40 .	If $\frac{1}{3.618} = 0.2764$ then the value of $\frac{1}{0.0003618}$ is equal		
	(a) 276.4	(b) 2764	
	(c) 27.64	(d) 2.764	
	(e) None of these		

ANSWER - KEY				
1. (b)	2. (b)	3. (b)	4. (a)	5. (c)
6. (c)	7. (c)	8. (b)	9. (c)	10. (d)
11. (d)	12. (c)	13. (c)	14. (a)	15. (b)
16. (a)	17. (c)	18. (b)	19. (b)	20. (d)
21. (d)	22. (a)	23. (b)	24. (c)	25. (a)
26. (a)	27. (c)	28. (c)	29. (d)	30. (b)
31. (d)	32. (d)	33. (c)	34. (c)	35. (e)
36. (c)	37. (c)	38. (c)	39. (c)	40. (b)