

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: BE/CSE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : MA8551	Subject Name : ALGEBRA AND NUMBER THEORY	Rev. No.	02
Unit No : III	Unit Name: DIVISIBILITY THEORY AND CANONICAL DECOMPOSITIONS	Date	30-09-2020

OBJECTIVE TYPE QUESTION BANK

S.No.	Objecetive Questions [MCQ / True or False / Fill up with Choices)	BTL
1	Find the quotient when 11 divided by 75 a) 0 b) 7 c) 8 d) 6	L5
2	Find the remainder when 207 divided by 15 a) 16 b) 12 c) 8 d) 11	L5
3	Find the remainder when -23 divided by 25 a) 3 b) 4 c) 2 d) -2	L5
4	Find the value of $\lfloor -3.4 \rfloor$ a) 4 b) 3 c) -3 d) -4	L3
5	Find the value of $\lceil -5.67 \rceil$ a) -5 b) -6 c) 5 d) 6	L3
6	Find the number of positive integer ≤ 2756 and divided by 7 a) 339 b) 393 c) 933 d) 392	L4
7	Find the number of positive integer ≤ 2076 and divided by 19 a) 109 b) 110 c) 111 d) 112	L4
8	Find the number of positive integer ≤ 3076 that are not divisible by 23 a) 2941 b) 2942 c) 2943 d) 2944	L4
9	Find base ten when 10110_{two} a) 19 b) 20 c) 21 d) 22	L3
10	Find base ten of $3ABC_{16}$ a) 15036 b) 15037 c) 37015 d) 63051	L3
11	Find the octal integer in to $(1101)_2$. a) $(14)_8$ b) $(15)_8$ c) $(15)_{16}$ d) $(16)_2$	L3
12	Express $(1776)_8$ as a decimal number a) 1022 b) 1202 c) 1220 d) 1202	L3
13	Express $(11101)_2$ in to a hexadecimal digit. a) $(1A)_{16}$ b) $(1B)_{16}$ c) $(1D)_{16}$ d) $(1C)_{16}$	L3
14	What is a binary digit of 37_{16} a) 111101_2 b) 111011_2 c) 101111_2 d) 110111_2	L3
15	Express AD_{16} as a binary digit. a) 10101101_2 b) 11001101_2 c) 11100101_2 d) 11110001_2	L3
16	The number of ones in the binary representation of 2^5-1 is a) 4 b) 5 c) 6 d) 7	L4
17	The value of base b if $1001_b=9$ is a) 8 b) 16 c) 2 d) 5	L4

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18	The value of base b if $54_b = 64$ a) 10 b) 11 C) 12 d) 13	L4
19	The gcd of 168 and 180 is a) 21 b) 13 C) 12 d) 15	L5
20	The gcd of (-15, 20) is a) -4 b) 4 C) -5 d) 5	L5
21	If p is prime and $p ab$ then _____ a) $p a$ or $p b$ b) $p \nmid a$ & $p \nmid b$ C) $p a$ or $p \nmid b$ d) $p \nmid a$ or $p \nmid b$	L3
22	The canonical decompositions of 999 is a) $2^3 \cdot 3^3 \cdot 37$ b) $3^3 \cdot 37$ C) $3^2 \cdot 37$ d) $3^4 \cdot 37$	L4
23	The gcd of 414 and 662 is a) 0 b) 1 C) 2 d) 3	L3
24	The gcd of (12, 16, 3) is a) 4 b) 3 C) 2 d) 1	L3
25	The lcm of (15, 20) is a) 60 b) 30 C) 40 d) 5	L3
26	The L.C.M of two numbers is 4800 and GCD is 160. If one of the number is 480, then the second number is a) 16000 b) 1600 C) 160 d) 16	L4
27	LCM of two numbers is 12 times their GCD. The sum of GCD and LCM is 403. If one number is 93, find the other a) 134 b) 128 C) 124 d) none of the above	L4
28	If $a, b, c \in \mathbb{Z}$, then $a b$ and $b c \Rightarrow$ _____ $\forall a, b \neq 0, c \neq 0 \in \mathbb{Z}$ a) $a b$ b) $b c$ C) $a \nmid c$ d) $a c$	L3
29	Find the positive integer a if $[a, a+1] = 132$ a) 11 b) 12 C) 13 d) 14	L4
30	If a and b are positive integers with $a = 231$, $(a, b) = 7$ and $[a, b] = 600060$, find b a) 1802 b) 1820 C) 1280 d) 2180	L5
31	If $ab=156$ and a and b are relatively prime find $[a, b]$ a) 561 b) 615 C) 156 d) 165	L4
32	The lcm of two consecutive positive integers is 812. Find the numbers a) 25.26 b) 26.27 C) 27.28 d) 28.29	L5