BHARAT SCHOOL OF BANKING
NUMBER SYSTEM

Q1. Find the greatest number which divides the number 1461, 4185 and 4227 leaving remainders 2, 3 and 4, respectively.
(a) 43
(b) 41
(c) 48
(d) None of these

S1. Ans.(b)
Sol. Greatest number which divides the numbers 4061, 4185 and 4227 leaving remainders 2, 3 and 4 will be equal to HCF of (4061 – 2), (4185 – 3), (4227 – 4) i.e. HCF of 4059, 4182 and 4223. Since, HCF and 4059, 4182 and 4223 is 41. So, the required number is 41.

Q2. Four metal rods of lengths 78 cm, 104 cm, 117 cm and 169 cm are to be cut into parts of equal length. Each part must be as long as possible. What is the maximum number of pieces that can be cut?
(a) 27
(b) 36
(c) 43
(d) 480

S2. Ans.(b)
Sol. Given, lengths of four metal rods are 78, 104, 117 and 169 cm.
Now, 78 = 13 × 2 × 3
104 = 13 × 2 × 2 × 2
117 = 13 × 3 × 3
169 = 13 × 13
Length of each piece of rod as possible.
HCF = 13 cm
∴ Number of pieces = 6 + 8 + 9 + 13 = 36

Q3. There are five hobby clubs in a college viz. photography, yachting, chess electronics and gardening. The gardening group meets every second day, the electronics group meets every third day, the chess group meets every fourth day, the yachting group meets every fifth day and the photography group meets every sixth day. How many times do all the five groups meet on the same day within 180 days?
(a) 3
(b) 5
(c) 10
(d)18

S3. Ans.(a)

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Sol. Gardening group meets once in 2 days, electronics group meets once in 3 days, chess group meets once in 4 days, yachting group meets once in 5 days and the photography group meets once in 6 days.
If they meet on the same day one time, then the next time they will meet on the same day again will be the LCM of 2, 3, 4, 5 and 6 which is equal of 60. Hence, within 180 days all the five groups will meet on the same day =180/60 = 3 times

Q4. What is the sum of digits of the least number, which when divided by 52 leaves 33 as remainder, when divided by 78 leaves 59 as remainder and when divided by 177 leaves 98 as remainder?
(a) 21
(b) 27
(c) 19
(d) 36

S4. Ans.(c)
Sol. (52 − 33) = 19, (78 − 59) = 19 and (117 − 98) = 19
LCM of 52, 78 and 117 is 468.
Required least number = 468 + 19 = 487
Sum of digits of 487 = 4 + 8 + 7 = 19

Q5. The product of two relatively prime numbers is 143. Find their HCF.
(a) 3
(b) 9
(c) 13
(d) 1

S5. Ans.(d)
Sol. Two divisible prime numbers are exactly divisible by 1 only.
∴ Required HCF = 1

Q6. If $(22)^3$ is subtracted from the square of a number, the answer so obtained is 9516. What is the number?
(a) 144
(b) 142
(c) 138
(d) 136

S6. Ans.(b)
Sol. Let the number be x.
Now, according to the question,
$X^2 − (22)^3 = 9516$

or, x^2 = 9516 + (22) ^{3} = 9516 + 10648 = 20164

 x = $\sqrt{20164}$ = 142

Q7. A gardener plants 34969 mango trees in his garden and arranges them so that there are so many rows as there are mango trees in each row. The number of rows is-
(a) 187
(b) 176
(c) 169
(d) 158

 S7. Ans.(a)
Sol. No of each rows is equal to the number of trees in each rows that means the number of rows and column is same = $\sqrt{34969}$
        = 187

Q8. Sum of eight consecutive numbers of Set A is 376. What is the sum of five consecutive numbers of another set if its minimum number is 15 ahead of average of Set A?
(a) 296
(b) 320
(c)284
(d)324

 S8. Ans.(b)
Sol. Average of first set = 376/8 = 47
 Minimum number of second set = 47 + 15 = 62
Hence, required sum = 62 + 63 + 64 + 65 + 66 = 320

Q9. Find the least number which, when divided by 72, 80 and 88, leaves the remainders 52, 60 and 68 respectively.
(a) 7900
(b) 7800
(c) 7200
(d) 7600

S9. Ans.(a)
Sol. 72 – 52 = 20, 80 – 60 = 20, 88 – 68 = 20. We see that in each
case, the remainder is less than the divisor by 20. The LCM
of 72, 80 and 88 = 7920, therefore, the required number 7920
– 20 = 7900

Q10. The HCF and LCM of two numbers are 44 and 264 respectively. If the first number is divided by 2, the quotient is 44. What is the other number?

(a) 108
(b) 44
(c) 124
(d) 132

S10. Ans.(d)
Sol. The first number = 2 × 44 = 88
The second number = (HCF* LCM)/88
= (44* 264)/88
= 132