

# BHARAT SCHOOL OF BANKING

## L.C.M AND H.C.F

**1. About the number of pairs which have 16 as their HCF and 136 as their LCM, the conclusion can be**

- a. only one such pair exists
- b. only two such pairs exist
- c. many three pairs exist
- d. many such pairs exist
- e. no such pair exists

**2. The HCF of two numbers is 12 and their difference is also 12. The numbers are**

- a. 66, 78
- b. 94, 106
- c. 70, 82
- d. 84, 96
- e. 50, 62

**3. The HCF of two numbers is 16 and their LCM is 160. If one of the numbers is 32, then the other number is**

- a. 48
- b. 80
- c. 96
- d. 112
- e. 108

**4. HCF of three numbers is 12. If they are in the ratio 1:2:3, then the numbers are**

- a. 12,24,36
- b. 10,20,30
- c. 5,10,15
- d. 4,8,12
- e. 15, 30, 45

**5. Six bells commence tolling together and toll at intervals of 2,4,6,8,10 and 12 seconds respectively. In 30 minutes, how many times do they toll together?**

- a. 4
- b. 10
- c. 15
- d. 16
- e. 18

**6. The largest natural number which exactly divides the product of any four consecutive natural numbers is :**

- a. 6
- b. 12

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- c. 24
- d. 120
- e. 150

**7. The traffic lights at three different road crossing change after every 48 sec; 72 sec; and 108 sec., respectively. If they all change simultaneously at 8:20:00 hrs, then they will again change simultaneously at**

- a. 8:27:12 Hrs
- b. 8:27:24 Hrs
- c. 8:27:36 Hrs
- d. 8:27:48 Hrs
- e. 8: 27:53 Hrs

**8. The greatest number by which if 1657 and 2037 are divided the remainders will be 6 and 5 respectively is**

- a. 127
- b. 235
- c. 260
- d. 305
- e. 310

**9. The total number of prime factors of the product  $(8)^{20} \times (15)^{24} \times (7)^{15}$  is**

- a. 59
- b. 98
- c. 123
- d. 4
- e. 14

**10. The HCF and LCM of two numbers are 44 and 264 respectively. If the first number is divisible by 3, then the first number is**

- a. 264
- b. 132
- c. Both a and b
- d. 33
- e. 36

### Answers

**1.e**

HCF is always a factor of LCM. ie., HCF always divides LCM perfectly.

**2.d**

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The difference of required numbers must be 12 and every number must be divisible by 12. Therefore, they are 84, 96.

### 3. b

The number =  $HCF \times LCM$  Given number =  $16 \times 16032 = 80$

### 4.A

Let the numbers be a, 2a and 3a.

Then, their HCF = a so a=12

The numbers are 12, 24, 36

### 5.d

LCM of 2, 4, 6, 8, 10 and 12 is 120. So, the bells will toll simultaneously after 120 seconds. i.e. 2 minutes. In 30 minutes, they (30/2) toll times i.e. 16 times.

### 6. C

The required number can be found out by following way.

$$1 \times 2 \times 3 \times 4 = 24$$

### 7.(A)

The change of interval =  $(LCM \text{ of } 48, 72, 108) \text{ sec.} = 432$ . So, for every 432 seconds i.e. 7 min. 12 sec. the lights will change. So add 7 min. 12 sec. to 8:20:00 Hrs. i.e. 8:27:12 Hrs.

### 8. A

The needed number is HCF of  $(1657-6)$  and  $(2037-5) = HCF \text{ of } 1651 \ \& \ 2032 = 127$ .

### 9.D

The prime numbers are 2, 3, 5, 17 in the expression. The expression can be written as  $(2^3)20 \times (3 \times 5)24 \times (17)15 \Rightarrow 2^60 \times 3^24 \times 5^24 \times 17^15$

So number of prime factors are 4. i.e., 2, 3, 5, 17

### 10.C

Let the numbers be ah, bh respectively. Here h is HCF of two numbers. (obviously a, b are coprimes i.e.,  $HCF(a, b) = 1$ )

Given that  $HCF = h = 44$  and  $LCM = abh = 264$

Dividing LCM by HCF we get  $ab = 6$ .

ab can be written as  $1 \times 6, 2 \times 3, 3 \times 2, 6 \times 1$ .

But given that the first number is divisible by 3. So only two options possible for A.  $3 \times 44, 6 \times 44$ . So option C is correct