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CDS Exam 2016 Mathematics Sample Services Exam Paper Part – 1

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1. Convert 11001001_2 (binary) to decimal

- (A) 20
- (B) 2001
- (C) 210
- (D) 201

2. What is the result when a decimal 5238 is converted to base 16?

- (A) 12166
- (B) 1476
- (C) 327.375
- (D) 1388

3. The number of bits used to store a BCD digit is

- (A) 4
- (B) 8
- (C) 2
- (D) 1

4. $(112 \times 5^4) = ?$

- (A) 67000
- (B) 70000
- (C) 76500
- (D) 77200

5. A 3-digit number $4a3$ is added to another 3-digit number 984 to give a 4-digit number $13b7$, which is divisible by 11. Then. $(a + b) = ?$

- (A) 10
- (B) 11
- (C) 12
- (D) 15

6. 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

7. Reduce to its lowest terms.

- (A) $\frac{3}{4}$
- (B) $\frac{5}{13}$
- (C) $\frac{7}{13}$
- (D) $\frac{9}{13}$

8. A, B and C start at the same time in the same direction to run around a circular stadium. A completes a round in 252 seconds, B in 308 seconds and C in 198 seconds, all starting at the same point. After what time will they again be at the starting point?

- (A) 26 minutes and 18 seconds
- (B) 42 minutes and 36 seconds
- (C) 45 minutes
- (D) 46 minutes and 12 seconds

9. The least number, which when divided by 12, 15, 20 and 54 leaves in each case a remainder of 8 is:

- (A) 504
- (B) 536
- (C) 544
- (D) 548

10. If the sum of two numbers is 55 and the H. C. F. and L. C. M. of these numbers are 5 and 120 respectively, then the sum of the reciprocals of the numbers is equal to:

- (A) $\frac{55}{601}$
- (B) $\frac{601}{55}$
- (C) $\frac{11}{120}$
- (D) $\frac{12}{11}$

11. The sum of the present ages of a son and his father is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, what will be son's age?

- (A) 23 Years
- (B) 22 Years

(C) 21 Years

(D) 20 Years