TEST PAPER: MATHEMATICS
Time: 50 Minutes   **Class:** 10th C.B.S.E.
Max. Marks: 30 Marks   **Date:** 28th March, 2018

Marking Scheme: *Three questions carry 10 marks each. Question 1 has 10 MCQ's of 1 mark each. Questions 2 and 3 have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.*

Question 1:

1. The HCF of $x^3y^5z^2$ & $a^3x^2y^6z$ is?
$x^2y^5z^2$
$a^3x^3y^6z^2$
x^2y^5z
$x^3y^6z^2$

2. The [HCF x LCM] for the numbers 50 and 20 is
10
100
1000
50

3. Which of the following number has terminating decimal expansion?
37/45
21/ 2688
17/49
89/2232

4. Euclid's division lemma states that for two positive integers a and b. there exist unique integers q and r such that a = bq + r, where r must satisfy?
$1 < r < b$
$0 < r \leqslant b$
$0 \leqslant r < b$
$0 < r < b$

5. The decimal expansion of the number 31/ 22.5 will terminate after
One Decimal Place
Two Decimal Place
Three Decimal Place
More than 3 Decimal Place

6. That HCF (2520, 6600) =40, LCM (2520, 6600) =252 x k, then the value of k is:
1650
1600
165
1625

7. If p, q are two co – prime numbers. LCM (p, q) is:
p
q
pq
1

8. The decimal expansion of the rational number 23/22.5 will terminate after
One Decimal Place
Two Decimal Place
Three Decimal Place
More than 3 Decimal Place

9. $n^2 - 1$ is divisible by 8, if n is
1
p
q
pq

10. If p, q are two prime number, then LCM (p, q) is:
1
p
q
pq

Question 2:

a. If H.C.F. of 144 and 180 is expressed of the form 13m – 3, find the value of m.   [3]

b. The H.C.F. of 45 and 105 is 15, hence find its L.C.M.   [3]

c. Show that √7 is an irrational number. Hence also show that 2 - √7 is also an irrational number.   [4]

Question 3:

a. Find the largest number that divides 650 and 1170 using Euclid's algorithm.   [3]

b. Three bells ring at intervals of 12 minutes, 15 minutes and 18 minutes respectively. If the start ringing together at time t = 0 s, after what time will they next ring together?   [3]

c. Find the H.C.F. and L.C.M. of 378, 180 and 420 by prime factorization method.   [4]