Important Question Sub-(Maths) Class- 10th

One mark questions-

- 1- If two positive integers a and b are written as $a = x^{2y^2}$ and $b = xy^3$ where x,y are prime no. then HCF of (a,b) is?
- 2- The smallest number by which $\sqrt{27}$ should be multiplied so as to get a rational no is?
- 3- If n is a natural number them what are the numbers by which $9^{2^n} 4^{2^n}$ is always divisible
- 4- If LCM of a and 18 is 36 and the HCF of a and 18 is 2 then find the value of a?
- 5- If p and q are co-prime numbers then what are p^2 and q^2 ?
- 6- If p1 and p2 are two odd prime numbers such that $p_1 > p_2$ then what $isP_1^2 > P_2^2$
- 7- Write the fundamental theorem of Arithmetic?
- 8- Write Euclid's division lemma.

Two mark questions-

- 9- Find the least number that is divisible by all the numbers from 1 to 10
- 10- Prove that $3\sqrt{2}$ is irrational
- 11- Express each as product of prime factors.
 - a) 3825 b) 7429
- 12- What is algorithm?
- 13- Let a,b,c,d be positive rational such that a+ \sqrt{b} = c+ \sqrt{d} , then either a=c and b=d or b and d are squares of rationals.

Three mark questions-

- 1- show that n^{-2} is divisible by 8, if n is an off positive integer.
- 2- Use Euclid's division algorithm to find HCF of 210 and 55.
- 3- Two tankers contain 850 liters and 680 liters of petrol respectably, Fund the maximum capacity of a container which can measure the petrol of either tanker in exact number of timer.
- 4- Express as the product of prime factors a) 234 b)140
- 5- Show that 12^n cannot end with digit o or 5 for any natural number n.

Four mark questions-

- 6- Explain why 3x7+7 is a composite number.
- 7- Find the larget positive integer that will decide 398, 436 & 542 leaving remainder 7, 11 and 15 respectively
- 8- Prove that 5- $\sqrt{3}$ is an irrational number.
- 9- If HCF of 408 and 1032 is expressible in the form 1032m-408x5 find m.

- 10- Three sets of eng, hindi, maths books have to be stacked in such a way that all books are store topic-wise and height of each stock is the same the number of English ,books is 96, n (H) =240 and n(m) =336 assuming books are of same thickness determine number of stocks of eng, hindi, maths.
- 11- Determine the nature of decimal expansion of rational no.
 - a) 27.7624 b)—
- 12- Prove that one of every three consecutive positive integers is divisible by 3.
- 13- Prove that
 - a) $\sqrt{2}$ is an irrational number
 - b) $\sqrt{5}$ is an irrational number
 - c) $\sqrt{3}$ isan irrational number
- 14- There is a circular path around a sport field Sonia takes 18 minutes to drive one round of the field, while Ravi takes 12 minutes for the same. Suppose they both start at the same point and at the same time, and go in the same direction. After how many minutes will they meet again at the starting point
- 15- A sweet seller has 420 kaju barfis and 130 badam barfis she wants to stack them in such a way that each stack has the same number and they take up the least area of they what is the number of that can be placed in each stock for this purpose?
- 16- An army contingent of 616 members is to march behind an army band of 32 members in a parade the two groups are to march in the same number of columns what is the maximum number of columns in which they can march.
- 17- Explain way 7x11x13+13 and 7x6x5x4x3x2x1+5 are composite numbers.
- 18- Fund the HCF of 96 and 404 by prime factorization method hence find the LCM.
- 19-Show that is positive odd integer is in the form of 4m+1 and 4m+3 where m is a positive integer.
- 20-Show that positive even integer is in the form of 6q+2 and 6q+4 where q is a positive integer.