SUBJECT: MATHEMATICS

CLASS- 10^{TH}

A.Solve the following questions

- If two positive integers p and q can be expressed' as p=ab² and q = a³b; where 0, b being prime numbers, then LCM (p, q) is equal to

 (a) ab
 (b) a²b²
 (c) a³b²
 (d) a³b³
- 2. The decimal expansion of the rational number 14587/1250 will terminate after
 (a) one decimal place
 (b) two decimal places
 (c) three decimal places
 (d) four decimal places
- 3. Can two numbers have 18 as their HCF and 380 as their LCM? Give reasons.
- 4. Without performing the long division, find if 987/10500will have terminating or nonterminating decimal expansion. Give reasons for your answer.
- 5. Prove that $\sqrt{7}$ is irrational and then prove that $3+2\sqrt{7}$ is also irrational.
- 6. If the zeroes of the quadratic polynomial x^z + (a +1)* + b are 2 and -3, then
 (a) a = -7, b = -1
 (b) a = 5, b = -1
 (c) a=2, b = -6
 (d)a=0, b = -6
- 7. The number of polynomials having zeroes as -2 and 5 is
 (a) 1
 (b) 2
 (c) 3
 (d) more than 3
- 8. Which of the following is not the graph of a quadratic polynomial?



- Find the zeroes of the following polynomials by factorisation method and verify the relations between the zeroes and the coefficients of the polynomials 4x²-3x-1
- 10. If $x \sqrt{5}$ is a factor of the cubic polynomial $x^3 3\sqrt{5}x^2 + 13x 3\sqrt{5}$, then find all the zeroes of the polynomial.
- 11. The abscissa of the point of intersection of the less than type and of the more than type cumulative frequency curves of a grouped data gives its(a) mean(b) median(c) mode(d) All of these
- 12. For the following distribution,

. —		ing alou					
	Class	0-5	5 - 10	10 - 15	15 - 20	20 - 25	-
	Frequency	10	15	12	20	9	2
	the sum of lo (a) 15	wer limit	s of the me (b) 25	dian class	and modal	class is (c) 30	(d) 35
13	. An event is v (a) 0.0001	ery unlik	ely to happ (b) 0.001	en. Its prot	bability is c (c)	losest to 0.01	(d) 0.
14	. If P (A) denot (a) P(A) < 0	es the p (b	robability o) P(A) > 1	f an event (c) 0 s	A, then ≤ P(A) ≤ 1		(d) $-1 \le P(A) \le 1$
15	If a card is se face card is $\frac{3}{26}$	elected fr	om a deck (b) $\frac{3}{13}$	of 52 cards	s, then the $\frac{1}{1}$ (c) $\frac{1}{1}$	probability 2	of its being a red (d) $\frac{1}{2}$
16	The probabili is $\frac{1}{7}$ (a) $\frac{1}{7}$	ty that a (t	non-leap y $\frac{2}{7}$	our selecte	ed at rando (c) $\frac{3}{7}$	m will conta	ains 53 Sunday (d) $\frac{5}{7}$
47		/1		6.0			

17. The mileage (km per litre) of 50 cars of the same model was tested by a manufacturer and details are tabulated as given below

Mileage (kmL ⁻¹)	10-12	12-14	14-16	16-18	
Number of cars	7	12	18	13	

Find the mean, median and mode of the above data.

18. The following are the ages of 300 patients getting medical treatment in a hospital on a particular day

Age (in year)	10-20	20-30	30-40	40-50	50-60	60-70
Number of patients	60	42	55	70	53	20

Form

(i) less than type cumulative frequency distribution.

(ii) More than type cumulative frequency distribution.

(!!!) Draw less than and more than ogives on the same graph and obtain the median from the graph.

- 19. Two dice are thrown at the same time and the product of numbers appearing on them is noted. Find the probability that the product is less than 9.
- 20. A coin is tossed 3 times. List the possible outcomes. Find the probability of getting (i) all heads (ii) at least 2 heads

B. Learn and write squares and cubes all-natural numbers from 1 to 30

C. Prepare a PPT on the topic probability containing the following details.

- (1) Basic concepts related to probability
- (2) Sample space when two dice are thrown together.
- (3) Sample space when three coins are tossed together
- (4) Information about playing cards