MAX. MARKS:40   DURATION: 1.30 HR

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Section A

Question N0. 1 to 20 are M.C.Q. Choose the correct option. Each question carries 1 mark.

1. What is the greatest possible speed at which a man can walk 52 km and 91 km in an exact number of hours?

(a) 17 km/hours   (b) 7 km/hours   (c) 13 km/hours   (d) 26 km/hours

2. If two positive integers a and b are expressible in the form $a = pq^2$ and $b=p^3q$, p and q being prime numbers,
   Then LCM (a,b) is
(a) p^3q^2 (b) p^3q^3 (c) pq   (d) p^2q^2

3. If α and β are the zeros of a polynomial $f(x) = px^2 – 2x + 3p$ and $α + β = αβ$, then p is
(a)-2/3 (b) 2/3   (c) 1/3   (d) -1/2

4. How many zero(s) does the polynomial $29x^2-29x$.
 (a) 0   (b) 1   (c) 2   (d) 3

5 .The zeros of the quadratic polynomial $x^2 + 99x + 127$
 (a) both positive   (b) both negative   (c) both equal   (d) one positive and one negative

6. If the sum of the zeros of the polynomial $f(x) = 2x^3 – 3kx^2 + 4x – 5$ is 6,then the value of k is
 (a) 2   (b) 4   (c) -2   (d) -4

7. The number of Quadratic polynomial having 2 and -5 as their zeroes are
 (a)1   (b)2   (c)3   (d) infinite

8. For what value of k, do the equations 3x-y+8=0 and 6x-ky+16=0 represent coincident lines?
(a) $\frac{1}{2}$ (b) $\frac{-1}{2}$ (c)2   (d) -2

9. The area of the triangle formed by the lines y=x, x=6 and y=0 is
(a) 36 sq. units   (b) 18 sq. units   (c) 9 sq. units   (d) 72 sq. Units

10. The pair of equations x+2y+5=0 and -3x-6y+1=0 have
(a) a unique solution   (b) exactly two solutions (c) exactly many solutions   (d) no solutions

11. The pair of equations x=a and y=b graphically represents lines which are
   (a) parallel   (b) intersecting at (b, a)   (c) coincident (d) intersecting at (a, b)

12. If $\frac{1}{2}$ is a root of the equation $x^2 + kx − \frac{5}{4} = 0$, then the value of k is

  (a) 2   (b) -2   (c)$\frac{1}{2}$—   (d)$\frac{1}{-2}$

13. If the roots of the given equation $9x^2+6kx+4= 0$ are equal then value of k is
(a) 2 or 0   (b) 2 or -2   (c) -2 or 0   (d) only 0

14. If $p^2x^2 − q^2$=0, then x=
 (a) $\pm pq$ (b) $\pm p$ (c) $\pm q$ (d) $\pm \frac{p}{q}$

15. The first term of A.P. is p and the common difference= q, then its 10th term is
 (a)q+9p   (b) p − 9q   (c) p+9q   (d) 2p+9q

16. In an A,P, if d= - 4 n=7 and a_n=4,then a is
 (a) 6   (b) 7   (c) 20   (d) 28

17. What is the common difference of an A.P.in which $a_{18}-a_{14}$=32
(a) 8   (b) -8   (c) -4   (d) 4

18. The value of x for which 2x, x+10 and 3x+2 are three consecutive terms of an A.P.

 (a) 6   (b) -6   (c) 18   (d) -18

19. If x= a, y= b is the solutions x-y = 2 and x +y =4 then the values of a and b are respectively

 (a) 3 and 5   (b) 5 and 3   (c) 3 and 1   (d) -1 and 3

20. 11th term of the A.P. -3, $-\frac{1}{2}$, 2 is

(a) 28   (b) 22   (c) -38   (d)   30

Section B

Question N0. 21 to 22 are Case Study based Questions, Each question carries 4 mark

21, Ram and Rita are two friends of age around ten.they live in the same localityand went to the same school.once they heared about a fair organisedin their town by Royal Welfare Association. The fair hasmany rides, snacks and stalls for entertainment. Ram and Ritadecided to go to the fair for refreshment. Ram has Rs. 200 and Rita has Rs. 250 for fair. Ram wanted to enjoy a ride on the Giant Whee lwhileRita played Hoopla.They also enjoyed Burger ,ice-cream etc. And purchased some toys and models. They spent all their money and came back to home happily with various toys after a long enjoyment in fair.. Next dayteacher asked them about the amount they spend sin fair and their manner of expenditure.

(a0 Write the prime actors of Rs. 200   (1)

(b)Write the prime factors of Rs. 250   (10

(c) Find the LCM and HCF of 200 and 250. .   (2)

22. A small scale industry produces certain boxes of candies in a day. Number of boxes prepared by worker on a particular day was 2 more than thrice the number of workers working in the industry. The number of boxes produced in a particular day was 85.

(a) If the nuber of workers working in the industry is x.What was the number of boxes of candies prepared by each worker on that Particular day?   (1)

(b) Represent the above situation by quadratic equation   (10

(c) Find the Number of workers working in the industry   (2)

. # Section C

23. Find the H.C.F. of the numbers given below

 K, 2k, 3k ,4k and 5k   (2)

24. Find a quadratic polynomial, the sum and product of whose zeroes are 6 and 9 respectively. Hence find the zeroes.   (2)

25. A Father's age is three times the sum of the ages of his two children. After 5 years his age will be two times the sum of their ages   (3)

26. Find the roots of the quadratic equation $\sqrt{2}x^2 + 7x + 5\sqrt{2} = 0$ (2)

27. find the 7th term from the end of A.P. 7, 10,13,........ 184   (3)