DELHI PUBLIC SCHOOL, JAMMU

Assignment

SESSION : 2019-20

SECTION – A

Q1. The H.C.F. of 95 and 152 is …….

a) 57 b) 1 c) 19 d) 38

Q2. The decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after

a) One decimal place b) Two decimal place

c) Three decimal place d) Four decimal place

Q3. The smallest number by which $\sqrt{27}$ should be multiplied so as to get a rational number is 1

a) $\sqrt{27}$ b) $3\sqrt{3}$ c) $\sqrt{3}$ d) 3

Q4. If n is any natural number, then $6^n - 5^n$ always ends with

a) 1 b) 3 c) 5 d) 7

Q5. The LCM and HCF of two rational numbers are equal, then the numbers must be …..

a) Prime b) Coprime c) Composite d) Equal

Q6. If α, β are the zeroes of the polynomial $f(x) = x^2 + x + 1$, then $\frac{1}{\alpha} + \frac{1}{\beta} =$

a) 1 b) -1 c) 0 d) None of these

Q7. If the sum of the zeroes of the polynomial $f(x) = 2x^2 - 3kx^2 + 4x - 5$ is 6, the value of k is

a) 2 b) 4 c) -2 d) -4

Q8. If the product of zeroes of the polynomial $f(x) = 9x^2 - 6x^2 + 11x - 6$ is 4, then a =

a) $\frac{3}{2}$ b) $\frac{-3}{2}$ c) $\frac{2}{3}$ d) $\frac{-2}{3}$

Q9. If the polynomial $f(x) = ax^3 + bx - c$ is divisible by the polynomial

$g(x) = x^2 + bx + c$, then ab =

a) 1 b) $\frac{1}{c}$ c) -1 d) $= \frac{-1}{c}$

Q10. If one root of the polynomial f $f(x) = 5x^2 + 13x + k$ is reciprocal of the other, then the value of k is

a) 0 b) 5 c) $\frac{1}{6}$ d) 6

Q11. If $(1 + tax\theta + sex\theta)(1 + \cot\theta - \cos ec\theta) =$

a) 0 b) 1 c) 2 d) =-1

Q12. (SecA + TanA) (1-sin A) =

a) Sec A b) Sin A c) Cosex A d) Cos A

SECTION – B

Q13. Use enlids algorithm to find the HCF of 4052 and 12576.

Q14. If two zeroes of the polynomials are $\sqrt{2}$ and $-\sqrt{2}$ of $2x^4 - 3x^3 + 6x - 2$, find others.

Q15. Given 15 cot A = 8, find SinA and SecA.

Q16. Divide $3x^3 + x^2 + 2x + 5$ by $1 + 2x + x^2$

Q17. Prove that $\frac{CotA - CosA}{CotA + CosA} = \frac{Co\sec A - 1}{Co\sec A + 1}$

SECTION – C

Q18. Use ecmlids divisions Lemma to show that the square of any positive integer is either of the form 3m or 3m +1 for some integer m.

Q19. Find the zeroes of the polynomial $f(x) = x^3 - 5x^2 - 16x + 80$, if its two zeroes are equal is magnitude but opposite is sign.

Q20. If $Co\sec A = \sqrt{2}$, find the value of $\frac{2\mathrm{Sin}^2\mathrm{A} + 3\mathrm{Cot}^2\mathrm{A}}{4\tan^2\mathrm{A} - \mathrm{Cos}^2\mathrm{A}}$

Q21. Prove that : $\frac{1}{\mathrm{Cosec}\,\mathrm{A} - \mathrm{Cot}\,\mathrm{A}} - \frac{1}{\mathrm{Sin}\,\mathrm{A}} = \frac{1}{\mathrm{Sin}\,\mathrm{A}} = \frac{1}{\mathrm{Cosec}\,\mathrm{A} + \mathrm{Cot}\,\mathrm{A}}$

SECTION – D

Q22. If the polynomial $x^4 - 6x^3 + 16x^2 - 25x + 10$ is divided by another polynomial $x^2 - 2x + k$, the reminder comes out to be $x + a$, find the k and a.

Q23. Evaluate : $\frac{Cos58^0}{Sin32^0} + \frac{Sin22^0}{Cos68^0} - \frac{Cos38^0 Cosec52^0}{\tan 18^0 \tan 35^0 \tan 60^0 \tan 72^0 \tan 55^0}$

Q24. What must be subtracted from $8x^4 + 14x^3 - 2x^2 + 7x - 0$, so that the resulting polynomial is exactly divisible by $4x^2 + 3x - 2$.

Q25. Prove that : $\frac{Sin\theta - Cos\theta + 1}{Sin\theta + Cos\theta - 1} = \frac{1}{Sec\theta - \tan\theta}$