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| Subject : MATHEMATICSWorksheet no:2 | Topic : POLYNOMIALS | Date of Worksheet : 2-4-2019 |
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| Name of the Student \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Class &Division:\_\_\_\_\_\_\_\_\_ | Roll Number : \_\_\_ |

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|  |  **Section A** | Marks |
| 1. | If one zero of the polynomial f(x) = (k2 + 4)x2 + 13x +4k is reciprocal of the other , then find the value of k | 1 |
| 2. | If the product of zeros of the polynomial f(x) = a*x*3 – 6*x*2 + 11*x* – 6 is 4, then find a | 1 |
| 3. | If x+a is a factor of 2x2+ 2ax + 5x + 10 ,find a | 2 |
| 4. | Find the zeros of the polynomial 4x2 + 5x - 2 , and verify the relationship between the zeros and co-efficients. | 3 |
| 5. | What must be added to the polynomial 9x4 - 4x2*+*4 so that the resulting polynomial is exactly divisible by 3*x*2 + *x -*1? | 3 |
| 6. | What must be subtracted from the polynomial 6x3 +11*x*2 - 39*x-*65 so that the resulting polynomial is exactly divisible by *x*2 + *x -*1? | 3 |
| 7. | It is given that 1 is one of the zeros of the polynomial f(x)=7 x- x3 -6.Find the other zeros. | 3 |
| 8. | Divide (x3 + 3*x*2 - 5 *x* + 4) by (x-2) and verify Division Algorithm. | 4 |
| 9. | If the zeros of the polynomial x3 + 3*x*2 + *x* + 1 are a-b, a and a+b , find the values of a and b. | 4 |
| 10. | Use remainder theorem to find the value of k, it being given thatwhen x3 + 2*x*2 + k *x* + 3 is divided by (x-3), then the remainder is 21. | 4 |
| 11. | If α and β are the zeros of the polynomial f(x) = x2  + x + 1, then findi)$\frac{1}{α}$ + $\frac{1}{β}$ ii)α2 + β2 iii)α + β iv) 1 + 1 β α α2 β2 | 4 |
| 12. | Obtain all the zeros of x4 + 4x3 -2*x*2 -20 *x* -15,if two of its zeros are √5 and -√5. | 4 |
|  | **Section B- HOT QUESTIONS** |  |
| 1. | If sum of the squares of zeros of the quadratic polynomial f(x) = x2 - 8x + k is 40 , find the value of k. | 3 |
| 2. | If the polynomial 6x4+ 8x3 + 17x2+ 21x + 7 is divided by another polynomial 3x2+ 4x + 1 , the remainder comes out to be ax + b , find a and b. | 4 |
| 3. | If the polynomial f(x) = x4- 6x3 + 16x2- 25x + 10 is divided by another polynomial x2- 2x + k , the remainder comes out to be x + a , find k and a | 4 |
| 4. | If α and β are the zeros of the polynomial f(x) = x2- 5x + k , such that α – β = 1 , find the value of k. | 3 |
| 5. | If α and β are the zeros of the polynomial f(x) = x2- x - 2 , then find a polynomial whose zeros are 2α + 1 and 2β + 1. | 3 |