B.Sc. DEGREE EXAMINATION, APRIL 2018.

I YEAR I SEMESTER

Core - Allied I - ALLIED MATHEMATICS-I

Time : 3 Hours Max. Marks : 75

SECTION A – (10 × 2 = 20 marks)

Answer any *TEN* questions

1. Show that

1. Sum the series
2. Find the derivative of w. r .t. x .
3. Find the derivative of w . r .t .x.
4. If , then find .
5. Find the minimum value of

 7. If , show that is equal to nearly.

 8. If , find the value of

 9. Using formula , evaluate .

 10. Using formula , evaluate .

 11. If , show that

 12. Give the working rule to find the maxima and minima of a function.

SECTION B – (5 × 5 = 25 marks)

Answer any *FIVE* questions

13. Show that

[P.T.O.]

14. Find the derivative of .

15. If , show that

16. Show that.

17.Show that , if then .

18. Show that

19. Express as a polynomial in .

SECTION C – (3 × 10 = 30 marks)

Answer any *THREE* questions

20. Sum the series :

21. If , prove that

22. Find the maximum and minimum values of .

23.Prove that .

24. Obtain the reduction formula for