B.Com.(Hons) DEGREE EXAMINATION,ODD SEMESTER 2020
II Year III Semester
Business Mathematics

Max.marks :25

Answer any **FIVE** questions $(5 \times 5 = 25)$ Marks

1. If A ={0,1,3,5} B={1,2,4,7} C={1,2,3,5,8} Prove that $(A \cap C) \cup B = (A \cup B) \cap (C \cup B)$
2. Given $f(x) = x + 3$; $g(x) = 2x + 7$; $h(x) = x^2$ check whether $(fog)oh = fo(goh)$
3. The monthly incomes of two persons are in the ratio 6:7 and their monthly expenditure are in the ratio 11:13. If each saves Rs.50 per month, find their monthly incomes.
4. A locomotive engine without a train can go 24km an hour and its speed is diminished by a quantity which varies as the square root of the number of wagons attached. With 4 wagons its speed is 20km per hour. Find the greatest number of wagons with which the engine can move.
5. Find the sum of all natural numbers between 100 and 1000 which are divisible by 13.
6. Differentiate $\frac{logx}{x^2}$ w.r.to x.
7. Find Maximum and Minimum values for $y = x^3 - 2x^2 + x + 4$.