**B.Sc. DEGREE EXAMINATION, APRIL 2016.**

**II YEAR — III SEMESTER**

**Major Paper V — DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS**

**Time : 3 hours Max. Marks : 75**

**SECTION A — (10 × 2 = 20 marks)**

**Answer any TEN questions.**

1. Write down the clairauts form and its general solution.
2. If 
3. Find the complementary function of 
4. Find the particular integral of .
5. Solve *Pey= qex.*
6. Form the partial differential equation by eliminating the arbitrary constants from .
7. Find 
8. Find 
9. Write down the Laplace equation for the given differential equation 
10. If  then show that y =.
11. Solve the equation 
12. If *L[f(t)] = F(s)* the find the Value of *L{t f(t)}.*

**SECTION B — (5 × 5 = 25 marks)**

**Answer any *FIVE* questions.**

1. Solve 
2. Solve the equation 
3. Solve 
4. Find .
5. Using Laplace Transform solvegiven that

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1. Solve *p2 + q2 = npq.*
2. Find 

[P.T.O.]

**SECTION C — (3 × 10 = 30 marks)**

**Answer any *THREE* questions.**

1. Solve 
2. Solve by using method of Variation of parameters.
3. Solve *(1+y)p+(1+x)q = z.*
4. Find .
5. Using Laplace Transform solve the differential equation

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