Nepal college of information technology

(Unit test)

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| Level: Bachelor | Semester-spring-2020 | Full Marks: 100 |
| Program : COMPUTER,software(Day/ Morning) | | Pass Mark: 45 |
| Course: Engineering Math-II | | Time : 3hrs. |

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| *Candidates are required to give their answers in their own words as far as practicable.* |
| *The figures in the margin indicate full marks.* |
| *Attempt all the questions.* |

1. (a) Find the magnitude and Equation of shortest distance between the lines [8]

 , 

. (b) Find the equation of sphere Through the circle  , 

=6 and touching the plane z=0 [7]

1. (a) if  where x and y are not simultaneously zero [8]

= 0 when x=0, y=0 show that at (0,0) 

(b) Find the extreme value of the function  [7]

3. (a) Evaluate  [8]

(b) find by double integration the area enclosed by the pair of curve [7]

 and 

4.(a) Define linear differential equation of first order and solve [7]



(b) Solve differential equation :  [8]

5. (a) solve initial value problem :  [8]

(b)Sove the differential equation  by using the power series methods [7]

Or

Define Legendre’s equation .Also derived the solution of Legender’s equation.

6. (a) State and prove first and second shifting theorem of Laplace transform [7]

(b) Using the Laplace transform solve   [8]

7. Attempt all question (2.5\*4=10)

(a) solve :(1+x)ydx+(1+y)xdy=0

(b) find the laplace trans form of 

(c) Verify the Euler’s formula for the function: 

(d) find the equation of plane through the point (1,1,1) and parallel to the plane 3x-4y+5z=0