

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

set 1

Answer all the questions. Sec No-.....

Qn No	Questions:	Answer
1	Define Laplace transform	
2	Laplace transform of $tf(t) = \underline{\hspace{2cm}}$	
3	Define the even series for even function	
4	Is the de homogeneous or not: $y' = \frac{2xye^{x/y}}{x^2+y^2\sin^x/y}$	
5	Is the de is Bernoulli: $y' = xsiny + e^x$	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

set 2

Answer all the questions. Sec No-.....

Qn No	Questions:	Answer
1	Say true or false: the equation $y' = 5$ is linear	
2	Define Heaviside function	
3	Wronskian of y_1, y_2 is defined as.....	
4	$L(f^{(n)}(t)) = \underline{\hspace{2cm}}$	
5	The particular integral of the ODE $y'' + 6y' + 9y = 2e^{-3x}$ is a) xe^{-3x} b) x^2e^{-3x} c) $\frac{xe^{-3x}}{2}$ d) $\frac{x^2e^{-3x}}{2}$	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 3

Answer all the questions. Sec No-.....

Qn No	Questions:	Answer
1	The particular integral of the ODE $(D^4 - 2D^3 + D^2)y = e^x$ is a) $\frac{x^2 e^x}{2}$ (b) $x^2 e^x$ (c) $\frac{x e^x}{2}$ (d) $x e^x$	
2	The equipotential curves are orthogonal trajectories of the curves of electric force - TRUE or FALSE	
3	The Laplace transform of $e^{2t} \sinh t$ is a) $\frac{1}{(s+2)^2 - 1}$ (b) $\frac{1}{(s-2)^2 + 1}$ (c) $\frac{1}{(s+2)^2 + 1}$ (d) $\frac{1}{(s-2)^2 - 1}$	
4	$L^{-1} \left[\frac{s-3}{s^2 - 6s + 10} \right] = ?$ a) $e^{3t} \sin t$ (b) $e^{3t} \cos t$ (c) $\frac{e^{3t} \cos t}{3}$ (d) $\frac{e^{3t} \sin t}{3}$	
5	Say true or false: the equation $dy/dx + y^2 = x$ is Linear	

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 4

Answer all the questions. Sec No-.....

Qn No	Questions:	Answer
1	Is the de linear or not: $y' + \frac{x}{y} = 0$	
2	Find the order and state whether given de is linear $2e^x y''' + e^x y'' = 1$	
3	Laplace transform of $\frac{f(t)}{t} =$ _____	
4	Evaluate $\int_0^\infty t e^{-t} \sin t dt$, using Laplace transform	
5	$L^{-1} \left(\frac{1}{s^2} \right) =$	

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Answer all the questions. Sec No-.....

Set 5

Qn No	Questions:	Answer
1	The general solution of the ODE $y'' - 2\sqrt{2}y' + 2y = 0$ is ____	
2	The particular integral of the ODE $(D^2 + 9)y = \cos 2x$ is ____	
3	If $L(f(t)) = F(s)$, then $L(e^{at} f(t)) =$	
4	Solution of $(D^2 + 5D - 6)y = 0$ is	
5	Define Fourier series for odd function	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Answer all the questions.

Sec No-.....

Set 6

Qn No	Questions:	Answer
1	Orthogonal trajectories of $x^2 + y^2 = c$ is.....	
2	$L(e^{2t} + \cos(2t)) =$	
3	The Laplace transform of $e^{-2t} \sinh t$ is	
4	Is the De is homogenous or not: $y' = \frac{y^2}{x}$	
5	Is the De is homogenous or not: $xy' + y = \sqrt{y}$	

Total Marks

Presidency University

School of Engineering

Student ID: Math A 102 - Quiz

Duration: 10 minutes

Answer all the questions. Sec No-.....

Set 7

Qn No	Questions:	Answer
1	Is the de linear or not: $y' + \frac{x}{y} = 0$	
2	Find the order and state whether given de is linear $2e^x y''' + e^x y'' = 1$	
3	Laplace transform of $\frac{f(t)}{t} = \underline{\hspace{2cm}}$	
4	Evaluate : $\int_0^\infty t e^{-t} \sin t dt$, using Laplace transform	
5	$L^{-1}\left(\frac{1}{s^2}\right) = \dots\dots\dots$	

Total Marks

Presidency University

School of Engineering

Student ID: Math A 102 - Quiz

Duration: 10 minutes

Answer all the questions. Sec No-.....

Set 8

Qn No	Questions:	Answer
1	The condition for exactness of $Mdx + Ndy = 0$ is.....	
2	Find the particular integral of the ODE $(D^2 + 9)y = \cos 3x$ is	
3	$L^{-1}\left[\frac{s-3}{s^2-6s+10}\right] = \dots\dots\dots$	
4	State Convolution theorem	
5	If $f(t) = g(t) = 1$, then $(f*g)(t) = \dots$	

Total Marks

Presidency University

School of Engineering

Student ID:
Answer all the questions.

Math A 102 - Quiz

Sec No-.....

Duration: 10 minutes

Set 9

Qn No	Questions:	Answer
1	Solution of $x dy + y dx = 0$ is	
2	$L(1) = \dots\dots$	
3	Say true or false: The equation $dy/dx = xy$ is variable separable	
4	The condition for exactness of $M dx + N dy = 0$ is.....	
5	Say true or false: the equation $dy/dx + y^2 = x$ is Linear	

Total Marks:

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 10

Answer all the questions. Sec No-.....

Qn No	Questions:	Ans
1	State the use of Laplace transform in solving ODE's	
2	$L^{-1}\left(\frac{s}{s^2 + 4}\right) = \dots\dots$	
3	$y' = (\sin x)y + e^x$ Is DE a Bernoulli equation?	
4	$xy'' + xy' + y = x^2$ State whether de has constant coefficients or not.	
5	Evaluate $\int_0^{\infty} te^{-t} \sin t dt$, using Laplace transform	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 11

Answer all the questions.

Sec No-.....

Qn No	Questions:	Answer
1	Define Fourier series for odd function	
2	Find the order and degree of $xy'' + xy' + y = x^2$	
3	State Convolution theorem	
4	Say true or false: the equation $\frac{dy}{dx} = \frac{x+1}{y}$ is homogeneous	
5	The particular integral of the ODE $(D^2 + 9)y = \sin 2x$ is a) $\frac{-x \sin 2x}{5}$ (b) $\frac{\sin 2x}{5}$ (c) $\frac{-\sin 2x}{5}$ (d) $\frac{x \sin 2x}{5}$	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 12

Answer all the questions.

Sec No-.....

Qn No	Questions:	Answer
1	The equipotential curves are orthogonal trajectories of the curves of electric force - TRUE or FALSE	
2	State the use of Laplace transform in solving ODE's	
3	$L\left(\int_0^t \cos t dt\right) = \underline{\hspace{2cm}}$	
4	$L\left(\int_0^t t \sin t dt\right) = \underline{\hspace{2cm}}$	
5	Define Fourier series for odd function	

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 13

Answer all the questions.

Sec No-.....

Qn No	Questions:	Answer
1	$y' = (\sin x)y + e^x$ Is this de linear or not	
2	$2xy'' + x^2y' = (\sin x)y + 2$. State the order of the de	
3	Define Laplace transform	
4	Laplace transform of $tf(t) =$ _____	
5	If $f(t) = g(t) = 1$, then $(f*g)(t) =$	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Set 14

Answer all the questions. Sec No-.....

Qn No	Questions:	Answer
1	Solution of $xdy + ydx = 0$ is	
2	$L(1) =$	
3	The equipotential curves are orthogonal trajectories of the curves of electric force - TRUE or FALSE	
4	$L(\int_0^t \cos t dt) =$ _____	
5	State the use of Laplace transform in solving ODE's	

Total Marks

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Answer all the questions.

Sec No-.....

set 15

Qn No	Questions:	An
1	The general solution of the ODE $y' = y \tan x$ is (a) $y = c \cot x$ (b) $y = c \sec x$ (c) $y = c \operatorname{cosec} x$ (d) none	
2	The ODE $(y \cos x + \sin y + y)dx + (\sin x + x \cos y + x)dy = 0$ is an exact ODE - TRUE or FALSE.	
3	The ODE governing the Newton's law of cooling is _____	
4	The Laplace transform of $e^{2t} \sinh t$ is a) $\frac{1}{(s+2)^2 - 1}$ (b) $\frac{1}{(s-2)^2 + 1}$ (c) $\frac{1}{(s+2)^2 + 1}$ (d) $\frac{1}{(s-2)^2 - 1}$	
5	Orthogonal trajectories of $x^2 + y^2 = c$ is.....	

Total Marks:

set

Presidency University

School of Engineering

Student ID:

Math A 102 - Quiz

Duration: 10 minutes

Answer all the questions. Sec No-.....

set 16

Qn No	Questions:	Ans
1	Solution of $(D^2 + 6D + 8)y = 0$ is.....	
2	The order and degree of $(\frac{d^2 y}{dx^2})^{5/2} + y^3 = 0$ are.....	
3	Define Heaviside function	
4	$L(\sin ht) =$	
5	Say true or false: the order of $(\frac{dy}{dx})^{1/2} + y = 0$ is $\frac{1}{2}$ and degree is 1	

Total Marks:

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016 Comprehensive Examination Course: **MATH A 102 Engineering Mathematics II** (Closed Book)

Max Marks: 80 Max Time: 3 Hours Weightage: 40 % 23 May 2016 Set A

Part A: Answer all the questions. Each Question carries 5 marks (8*5=40)

1. Solve: $x(x - 1)y' + y(y - 1) = 0$

2. Solve $(D^2 + 5D - 6)y = \sin 2x$

3. Solve $\frac{d^2y}{dx^2} + y = \operatorname{cosec}x \cot x$ by the method of variation of parameters

4. Solve using Laplace transform $y'' - 5y' + 6y = 2e^{-2t}$ with $y(0) = 0, y'(0) = 0$

5. Find: the Laplace transform of

$$f(t) = \begin{cases} (t - 1)^2, & t > 0 \\ 0, & 0 < t < 1 \end{cases}$$

6. Find Fourier series of

$$f(x) = x + x^2 \text{ for } -\pi < x < \pi$$

7. Find the half-range cosine for the function $f(x) = x$ in the interval $0 \leq x \leq \pi$.

8. Construct a PDE of all spheres whose centre lies in the z-axis, by eliminating arbitrary constants.

Part B: Answer the following question.

(1 *10= 10 marks)

9. Consider an electrical circuit whereby an inductor of inductance $L = 10^3$ Henry, a resistor of resistance $R = 6000$ Ohm, an uncharged capacitor of capacitance

$$C = \frac{1}{9} 10^{-3} \text{ Farad and a battery of electromotive force } E(t) = 250 \cos t \text{ Volt are}$$

connected in a serial arrangement. The circuit is activated at $t = 0$. Find the charge on the capacitor and the electrical current flowing in the circuit for $t \geq 0$.

Part C: Answer the following questions, each question carries 15 marks: (2*15= 30 marks)

10. a) Solve by Laplace transform method:

$$\frac{dx}{dt} + x + 4y = 10 \text{ and } x - \frac{dy}{dt} - y = 0 \text{ given } x(0)=4 ; y(0)=3 \quad (10 \text{ marks})$$

b. Obtain the Fourier series for the function (5 marks)

$$f(x) = \begin{cases} -3, & -\pi \leq t < 0 \\ 3, & 0 \leq t < \pi \end{cases} \text{ and } f(t) = f(t + 2\pi)$$

11 a) An object is heated to a temperature of 100°C and at time $t = 0$ it is placed in water which is maintained at 40°C. If temperature of the object is reduced to 60°C in 4 minutes, find the time at which the temperature of the ball is 50°C. (8 marks)

b) A person keeps RS 5000 in an account that accrues interest compounded continuously. Assuming no additional deposits, or withdrawals, how much will be in the account after seven years if the interest rate is a constant 8.5% for the first four years and a constant 9.25% for the last three years? (7 marks)

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016 Comprehensive Examination Course: **MATH A 102 Engineering Mathematics II** (Closed Book)

Max Marks: 80 Max Time: 3 Hours Weightage: 40 % 23 May 2016 Set B

Part A: Answer all the questions. Each Question carries 5 marks (8*5=40)

Check whether the following equation is exact, also find its solution.

1. $(x^2y - 2xy^2)dx + (3x^2y - x^3dy) = 0$

2. Solve $(D^3 - 3D^2 + 4D - 2)y = e^x + \cos x + x$

3. Solve: $(D^2 - 2D + 1)y = e^{2x} - \sin 2x + 3$

4. Show that the Laplace transform of the triangular wave function

$$f(t) = \begin{cases} t & \text{for } 0 \leq t \leq a \\ 2a - t & \text{for } a \leq t \leq 2a \end{cases} \text{ with } f(t+2a) = f(t) \text{ is } \frac{1}{s^2} \tanh\left(\frac{as}{2}\right).$$

5. Find Laplace transform of $\frac{\cos 4t \sin 2t}{t}$

6. Find the half-range sine series for the function $f(x) = x$ in the interval $0 \leq x \leq \pi$.

7. Obtain the half range sine series for the function $f(x) = x \quad 0 \leq x \leq \pi$

8. Solve $(2D^2 - 5DD' + 2D'^2)z = \sin(2x + y) + e^{2x+y}$

Part B : Answer the following question: **(1* 10=10 marks)**

9. At 7:00 a.m, I made a cup of coffee for my spouse, using boiling water; after adding some milk is about 90°C. When we left for metro station at 7:30 a.m, the coffee is still drinkable at about 45°C. When I have reached home at 8:00 a.m, the remaining coffee has cooled to about 30°C. Find the temperature of our house, using Newton's law of cooling.

Part C: Answer the following questions, each carries 15 marks (2*15= 30 marks)

10. a) Find the inverse Laplace transform of $\frac{s}{(s+1)^2(s^2+1)}$ (7 marks)

10 b) Obtain the Fourier series for the function $f(x) = x^2$ $0 < x < 2\pi$ (8 marks)

11 a) A RCL circuit connected in a series has R of 5 ohms, an inductance of 0.5 H, a capacitor of 0.01 F and applied voltage $E = 12$ volts. Assuming no initial charge at $t=0$ when the voltage is first applied, find the subsequent current in the system (8 marks)

11.b) Suppose it is known that the number of cells of a given bacterial culture doubles every 3.5 hours (on average). If there are 500 cells in a dish to begin with, how many will there be after 12 hours? (7 marks)

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016

Test 1

Course: MATH A 104 Engineering Mathematics II
(Closed Book)

Max Marks: 30

Max Time: 50 Min

Weightage: 15 %

28 Mar 2016

Set A

Q 1 Do as directed in the question

(3Q x 2M= 6 M)

A. Form the differential equation from the relation $y = a \cos x + b \sin x$.

B. Solve

$$\frac{dy}{dx} = e^{x+y} + x^2 e^{-y}$$

C. Solve $y' = 1 + 0.01y^2$

Q 2 Answer the following as per the directions given

(3Q x 3M= 9M)

A. Solve:

$$y' = \frac{2y^4 + x^4}{xy^3}$$

B. Verify that $y = e^{-x}(a \cos x + b \sin x)$ is a solution of $y'' + 2y' + 2y = 0$

C. Solve

$$\frac{dy}{dx} + y \tan x = y^2 \sec x$$

Q 3 Solve the following

(3Q x 5M= 15M)

I. Solve: $y'' - 5y = 3e^x - 2x + 1$

II. Solve by variation of parameters $(D^2 + 4)y = 4 \sec^2 2x$

III. Suppose that an object is heated to 300°F and is allowed to cool in a room. After 10 minutes the temperature of the object is 200°F. When will it be equal to the room temperature of 60°F ?

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016

Test 1

Course: MATH A 104 Engineering Mathematics II
(Closed Book)

Max Marks: 30

Max Time: 50 Min

Weightage: 15 %

28 Mar 2016

Set B

Q 1 Do as directed in the question

(3Q x 2M= 6 M)

A. Solve

$$\frac{dy}{dx} + \sec^2 xy = \tan x \sec^2 x$$

B. Solve

$$\frac{dy}{dx} = \frac{xy}{x^2 + y^2}$$

C. Solve $2xydy - (x^2 + y^2)dx = 0$

Q 2 Answer the following as per the directions given

(3Q x 3M= 9M)

1. Find the equation of the system of orthogonal trajectories of the family of curves $x^2 + y^2 = cx$
2. Solve $2xy' - y = 10x^3y^5$
3. Solve $(x^2D^2 - 4xD + 6)y = \sin(\log x)$

Q 3 Solve the following

(3Q x 5M= 15M)

I. Solve $\frac{d^2y}{dx^2} + y = \sec x \tan x$ by the method of variation of parameters.

II. An object whose temperature is $75^\circ C$ cools in an atmosphere of constant temperature $25^\circ C$ at the rate of kT , T being the excess temperature of the body over that of the temperature. If after 10 min, the temperature of the object falls to $65^\circ C$, find its temperature after 20 min.

III. Solve

$$(D^2 + 2)y = x^2e^{3x} + e^x \cos 2x$$

ID No _____	Section _____	Signature of Invigilator _____
-------------	---------------	--------------------------------

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016

Quiz 1

Course: **MATH A 104 Engineering Mathematics-II**
(Closed Book)

Max Marks: 10

Max Time: 30 Min

Weightage: 5 %

Date 27 Feb 2016

Set A

Instructions to Candidates

1. Write legibly with pen only and do not over write
2. Answer the questions in the question paper itself, no extra answer book shall be provided
3. Write ID No, Section No in the designated place

Q No	Question (10 Q x 1 M= 10 Marks)	Answer
1.	The general solution of $x^2 \frac{dy}{dx} + y = 1$ is _____	
2.	The initial value problem $\frac{dy}{dx} = x, y(0) = 1$ has A. Only one solution B. Two solutions C. No solution D. An infinite number of solutions	
3.	The equation $y^2 = (x - c)^2$ is general solution of: A. $2yy' = 1$ B. $(y')^2 = 1$ C. $yy' = x^2$ D. $(yy')^2 = x$	
4.	Say true or False: A differential equation is said to be linear if x,y and the derivatives of y are of first degree and product of these do not occur in it.	
5.	A linear D.E A. Is necessarily of first degree B. Is necessarily of first order C. May or may not be of first degree but is of first order D. Is either of first order or of first degree. E.	
6.	Which of the following are homogeneous differential equations A. $x^2 dx + xdy = 0$ B. $xdx + ydy = c$ C. $x^3 dx + (x^2 y + y^3)dy = 0$ D. $x^3 dx + (x^2 y + y^3)dy = c$	

ID No _____	Section _____	Signature of Invigilator _____
-------------	---------------	--------------------------------

7.	<p>The solution of the differential equation is</p> $3x^2 y \frac{dy}{dx} = y^2 - 3$ <p>and $y(1)=2$</p> <p>A. $3 \ln y^2 - 3 = 1 - \frac{1}{x}$</p> <p>B. $(3/2) \ln y^2 - 3 = 1 - \frac{1}{x}$</p> <p>C. $2x^3 = y^2 - 6 \ln x - 2$</p> <p>D. None of the above</p>	
8.	<p>The general solution of the</p> $\frac{dy}{dx} + Py = Q$ <p>is given by _____</p>	
9.	<p>The number of constants in the solutions of a differential equation of degree 3 and order 2 is _____</p>	
10.	<p>Integrating factor for the D.E $(x^2 y - 2xy^2)dx + (3x^2 y - x^3)dy = 0$ to be exact is- ----</p>	

ID No _____	Section _____	Signature of Invigilator _____
-------------	---------------	--------------------------------

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016

Quiz 1

Course: **MATH A 104 Engineering Mathematics-II**
(Closed Book)

Max Marks: 10

Max Time: 30 Min

Weightage: 5 %

Date 27 Feb 2016

Set B

Instructions to Candidates

1. Write legibly with pen only and do not over write
2. Answer the questions in the question paper itself, no extra answer book shall be provided
3. Write ID No, Section No in the designated place

No	Question (10 Q x 1 M= 10 Marks)	Answer
1.	Which of the following equations is an exact differential equation? A. $(x^2 + 1) dx - xy dy = 0$ B. $x dy + (3x - 2y) dx = 0$ C. $6xy dx + (2 + 3x^2) dy = 0$ D. $x^2y dy - y dx = 0$	
2.	A Singular solution of the given differential equation is A. Either a general solution or a particular solution. B. Neither a general solution nor a particular solution but contains the arbitrary constants. C. Neither a general solution nor a particular solution and does not contain any arbitrary constant. D. Known as a general solution.	
3.	Find the general solution of $y' = y \sec x$ A. $y = C (\sec x + \tan x)$ B. $y = C (\sec x - \tan x)$ C. $y = C (\sec x \tan x)$ D. $y = C (\sec^2 x + \tan x)$	
4.	Solve the linear equation: $dy / dx + y / x = x^2$ A. $xy^2 = x^3 / 4 + C$ B. $xy = x^4 / 4 + C$ C. $x^2y = x^4 / 4 + C$ D. $y = x^3 / 4 + C$	

ID No	_____	Section	_____	Signature of Invigilator	_____
-------	-------	---------	-------	--------------------------	-------

5.	A necessary and sufficient condition for the differential equation to be exact is----- -----	
6.	The orthogonal trajectories of the family $x^2 - y^2 = C$ are given by -----	
7.	The degree of the differential equation $5y = x^3 \frac{dy}{dx} + \text{Cos}\left(\frac{dy}{dx}\right)$ is -----	
8.	The solution curves of the given D.E $dx+dy=0$ are given by a family of A. Circles B. Parabolas C. Ellipses D. Straight lines	
9.	Solution of $y'=\sin 5x$ is -----	
10.	The solution of the differential equation is $\frac{dx}{dt} = -3x, x(0) = x_0$ A. $x = x_0 e^{-3t}$ B. $x = x_0 e^{-3}$ C. $x = x_0 e^{-t}$ D. $x = x_0 e^{-1}$	

ID No _____	Section _____	Signature of Invigilator _____
-------------	---------------	--------------------------------

Presidency University, Bengaluru
School of Engineering

II Semester 2015-2016

Quiz 1 (MU)

Course: **MATH A 104 Engineering Mathematics-II**
(Closed Book)

Max Marks: 10

Max Time: 30 Min

Weightage: 5 %

Date ~~27 Feb 2016~~

Set C

21/4/16

Instructions to Candidates

1. Write legibly with pen only and do not over write
2. Answer the questions in the question paper itself, no extra answer book shall be provided
3. Write ID No, Section No in the designated place

Q No	Question 10 Q x 1 M= 10 M	Answer
1.	If n denotes the degree of a given differential equation, then A. n is any natural number B. n is any integer C. n can be zero D. n is any non-negative integer	
2.	Integrating factor for the D.E $(x^2y - 2xy^2)dx + (3x^2y - x^3)dy = 0$ to be exact is-----	
3.	Say True or False: If y_1 and y_2 are solutions of homogeneous linear differential equation the $y_1 + y_2$ is also a solution	
4.	The integrating factor of the D.E $\cosh x \frac{dy}{dx} + y \sinh x = 2 \cosh^2 x \sinh x$ is A. $\sinh x$ B. $\cosh x$ C. $e^{\cosh x}$ D. $\tanh x$	
5.	If $Mx+Ny \neq 0$ and the equation $Mdx+Ndy=0$ is homogeneous equation then the integrating factor is-----	
6.	A Singular solution of the given differential equation is A. Either a general solution or a particular solution. B. Neither a general solution nor a particular solution but contains the arbitrary constants. C. Neither a general solution nor a particular solution and does not contain any arbitrary constant. D. Known as a general solution.	
7.	A necessary and sufficient condition for the differential equation $Mdx + Ndy$ to be exact is _____	
8.	The integrating factor of $\cos x \frac{dy}{dx} + y \sin x = \tan x$ is _____	
9.	If $Mdx + Ndy = 0$ is such that $\frac{1}{M} \left(\frac{\partial N}{\partial x} - \frac{\partial M}{\partial y} \right) = k$, then the integrating factor is _____	
10.	If $Mx+Ny \neq 0$ and the equation $Mdx+Ndy=0$ is homogeneous equation then the integrating factor is-----	

