## MTH401 Grand quiz 2020 (Spring)

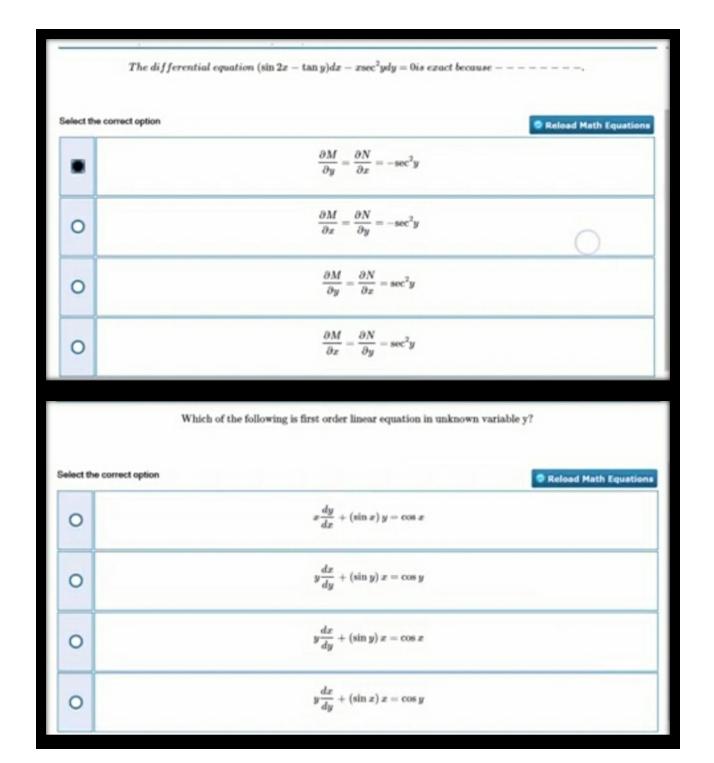
MTH401:Grand Quiz		Quiz Start Time: 08:01 AM, 06 July 2020	
Question # 1 of 30 ( Start time: 08:01:15 AM, 06 July 2020 ) The gravitational force exerted by the earth on a body of mass m is called of the body.		Total Marks: 1	
0	Force		
0	weight	-	

Constront # 5 or 20 ( Start pine, or	COT LOW MMY, ON JUNY 2020 }	Fotal Marks; 1
The differential equation		i
	$\frac{du}{dx} + \frac{2}{x}dx = 3 - \frac{6}{x}$	
Select the correct option		Reload Math Equations
0	$\frac{1}{x}$	
0	x <sup>2</sup>	
0	$\frac{1}{x^2}$	
0	$-\frac{1}{x}$	

I Surano Quiz	Quiz Start Time: 05:01 AM, 05 July 2020
n # 3 of 30 ( Start time: 08:01:43 AM, 06 July 2020 )	Total Marks: 1
uxiliary equation $m^3+m=0$ has roots $m=0, m=\pm i$ then the complementary function is	
he correct option	Reload Math Equations
$y_c = c_1 + c_2 \cos x + c_3 \sin x$	
$y_c = c_1 \cos x + c_2 \sin x$	
	The first of 30 ( Start time: 08:01:43 AM, 06 July 2020 ) uniliary equation $m^3 + m = 0$ has roots $m = 0, m = \pm i$ then the complementary function is the correct option $y_c = c_1 + c_2 \cos x + c_3 \sin x$

1:Grand Quiz	Quiz Start Time: 08:01 AM, 06 July 2020
n # 4 of 30 ( Start time: 08:01:48 AM, 06 July 2020 )	Total Marks: 1
ferential equation	i
$\frac{dy}{dx} - y = y^3$	
he correct option	Reload Math Equations
Bernoull's	
Homogeneous	
Cauchy	
Dessel	
	for an 4 of 30 ( Start time: OE 01:48 AM, 06 July 2020 ) for antial equation $\frac{dy}{dx} - y = y^3$ we correct option Bernoull's Homogeneous Cauchy

Question	# 6 of 30 ( Start time: 05:02:26 AM, 06 July 2020 )	Total Marks: 1
What is	annihilator operator of the function	
	$g(x) = 4 \sin x$	
?		
Select the correct option		Reload Math Equations
0	$(D^2-1)$	
0	$(D^2 + 4)$	
0	$(D^2 - 4)$	
0	$(D^2 + 1)$	

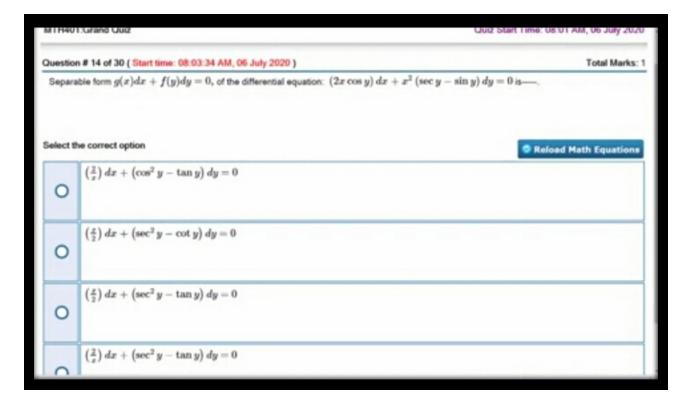


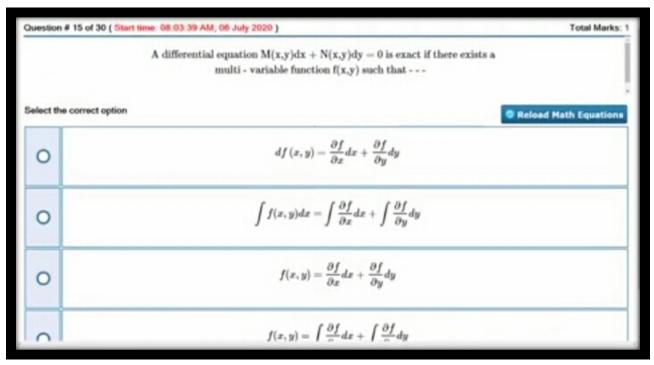
Questio	# 10 of 30 ( Start time: 08:03:06 AM, 06 July 2020 )	Total Marks: 1	
If initial	amount of a radioactive isotope is 100g. What will be the amount at the end of 30 days such that K=0.043?		
Select t	ve correct option		
0	371.415		
0	380.560		
0	363.279		
0	360.351		

Question # 11 of 30 ( Start time: 08:03:13 AM, 06 July 2020 )		Total Marks: 1
	For $f(x, y) = x^2 - y^2$ , $f(tx, ty) =$	
Select the	e correct option	Reload Math Equations
0	f(x,y)	
0	tf(x,y)	
0	$t^2 f(x,y)$	
0	$t^3f(x,y)$	

M1H4013Grand Quiz		Quiz Start Lime: 08:01 AM, 06 July 2020
Questio	n # 12 of 30 ( Start time: 08:03:19 AM, 06 July 2020 )	Total Marks: 1
Which	of following would be a constant solution of the separable differential equation: $rac{dy}{dx}=e^{x+y}$ ?	
Select	he correct option	Reload Math Equations
0	y = 0	
0	y = 1	
0	$y = a \in \mathbb{R}$	
0	No constant solution exist	

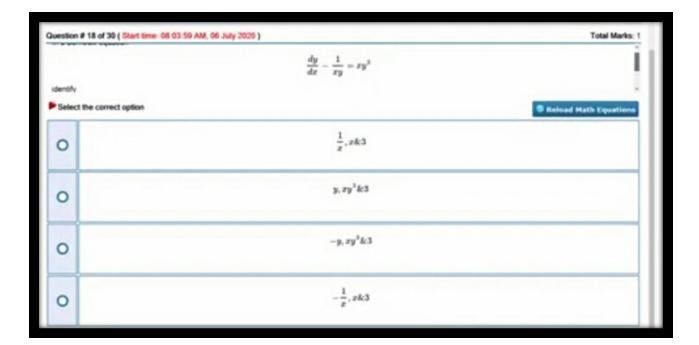
M1H401:Grand Quiz		uiz Start Lime: 05:01 AM, 06 July 2020
uestion # 13 of 30 ( Start tim	8: 08:03:24 AM, 05 July 2020 )	Total Marks:
If we substitute		
	$u = \frac{y}{x}$	
and the second s		
elect the correct option		Reload Math Equations
0	$ue^u du = dx$	
0	$ue^{(-u)}du=dx$	
0	$ue^udu = dy$	
0	$ue^{(-u)}du=dy$	





$\frac{d^{3}y}{dx^{3}} +$	$y^4 = 0$ is adifferential equation of order		
Select th	e correct option	Seload Math Eq	uation
0	linear, 4		
0	linear, 3		
0	non-linear, 4		
0	non-linear, 3		

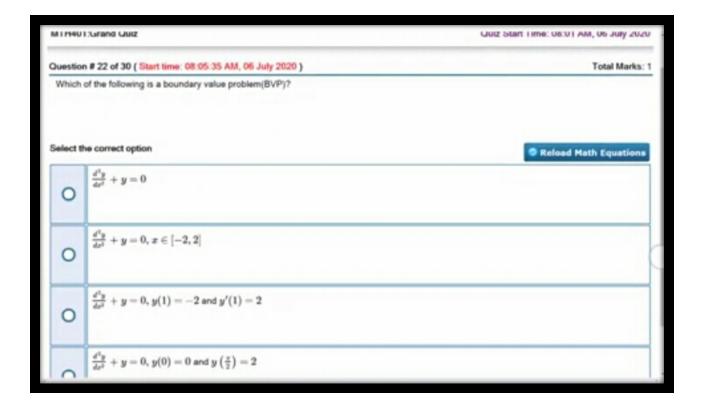
Which of the following is an equivalent form of the exact differential equation: $ydx + xdy = 0? \label{eq:gamma}$			
Select th	e correct option	Relead Math Equations	
0	$d(\frac{x}{y})=0$		
0	$d\left(\frac{y}{x}\right) = 0$		
0	d(xy) = 0		
0	d(x+y)=0		



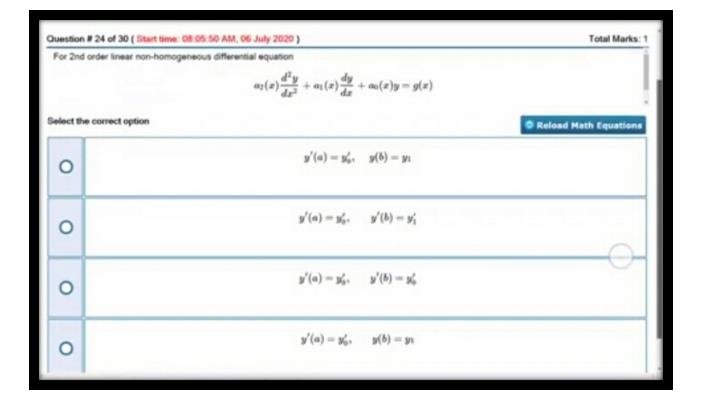
The differential equation of orthogonal trajecto	bry to the family of curves	
	$x^2 + y^2 = C^2$	
is		
elect the correct option		Reload Math Equation
0	$\frac{dy}{dx} = \frac{x}{y}$	
0	$\frac{dy}{dx} = \frac{y}{x}$	
0	$\frac{dy}{dx} = -\frac{x}{y}$	
0	$\frac{dy}{dx} = -\frac{y}{x}$	

	# 20 of 30 ( Start time: 08.05:17 AM, 06 July 2020 ) neral solution of a separable differential equation is $\sin^{-1} y = \cos^{-1} x + c$ , provided that $y(\frac{1}{\sqrt{2}}) = \frac{1}{\sqrt{2}}$ , then $c =$ .	Total Marks
elect the	e correct option	Reload Math Equation
0	44	
0	2 4	
0	-1	
0	0	
	Click to Have Ann	wer & Move for Next Question

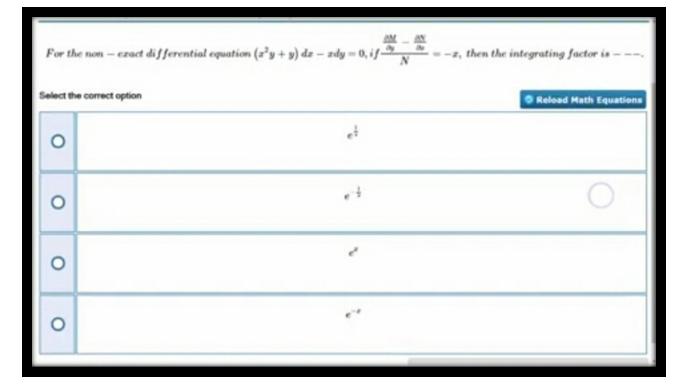
Question	# 21 of 30 ( Start time: 08:05:22 AM, 06 July 2020 )	Total Marks: 1
The equ	uation of free un-damped motion is	
Select th	e correct option	C Reload Math Equations
0	$\frac{d^3x}{dt^2} + \frac{k}{m}x = 0$	
0	$\frac{d^2x}{dt^2} - \frac{k}{m}x = 0$	



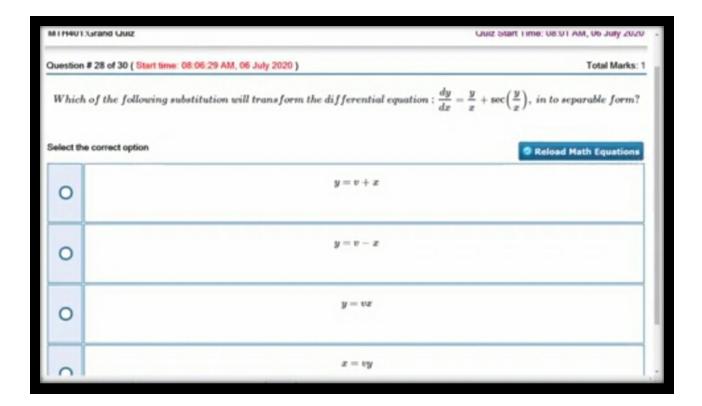
A di j	fferential equation M(x, y) dx + N(x, y) dy = 0 is exact if and only	if
Select the correct option		Reload Math Equations
	$rac{\partial}{\partial x}M(x,y)=rac{\partial}{\partial y}N(x,y)$	
0	$rac{\partial}{\partial y}M(x,y)=rac{\partial}{\partial x}N(x,y)$	
0	$\frac{d}{dx}M(x,y) = \frac{d}{dy}N(x,y)$	
0	$rac{d}{dy}M(x,y)=rac{d}{dx}N(x,y)$	
		Caulan



Wronsk	ian	$W(1,e^x)$	
= Select th	e correct option		Reload Math Equations
0	0		
0	1		
0	-1		
0		e	



-	# 27 of 30 ( Start time: 05:06:23 AM, 05 July 2020 )	Total Marks; 1
Which o	of following would be a general solution of the differential equation: $rac{dy}{dx}=4?$	
Select th	e correct option	Reload Math Equations
0	y = 4x + a	
0	y = ax + 4	0
0	y = 4x + 4	0
0	y = ax + a	



	The differential equation $\frac{dx}{dy} + \frac{1}{y}x = 2 \sin y$ is first order linear in unknown
Select the	correct option Ø Reload Math Equations
0	variable x
0	variable y
0	multi - variables x and y
0	$\frac{dy}{dx}$

MIHOU	1.Sarand Guuz	Guiz Start Lime: US:01 AM, 05 July 2020
Questio	n# 7 of 30 ( Start time: 08.02:32 AM, 06 July 2020 )	Total Marks: 1
Separa	able form $f(y)dy = g(x)dx$ , of the differential equation $y - x rac{dy}{dx} = a\left(y^2 + rac{dy}{dx} ight)$ is	
Select #	he correct option	Reload Math Equations
0	$\frac{1}{y(1+ay)}dy = \frac{1}{x+a}dx$	
0	$\frac{1}{y(1-ay)}dy = \frac{1}{x+a}dx$	
0	$rac{1}{y(1+ay)}dy=rac{1}{x-a}dx$	
0	$\frac{1}{y(1-xy)}dy = \frac{1}{x-x}dx$	

## Made by Ashii

MTH401	Grand Quiz		Quiz Start 1
	# 1 of 30 ( Start time: 04 56 22 AM, 06 July 2020 )		
	omplementary solution of	$\mathfrak{y}=c_1e^{(-2+\sqrt{6})\sigma}+c_2e^{(-2-\sqrt{6})\sigma}$	1.1
Select th	e correct option		
0		Ax + B	
0		$Ax^2 + Bx + C$	
0		$Ax^3 + Bx^3 + Cx + D$	
0		$(Ax^{2} + Bx)2x^{2}$	Raza Academy
	D Type here to search	💽 🗖 🛍 🛼 🛐 🖸	A 1

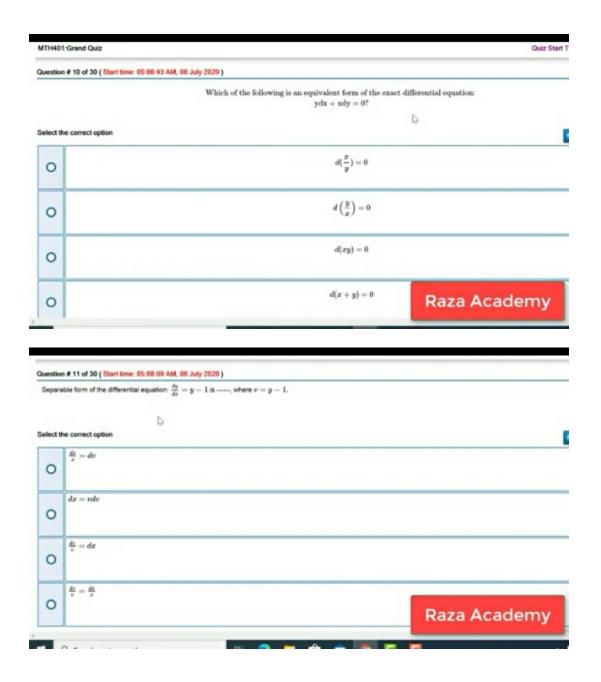
MTH401-Grand Quiz		Quiz Start
Question # 2 of 30 ( Start time: 0 The periodic time is given by Select the correct option	n 581.21 AM, 06 July 2020 )	
0	<u>لا</u> 27	
0	$\frac{2\pi}{\omega}$	
0	2++++	
0	5	Raza Academy
P Type here to search		~

1.Orand Quiz	Quiz Start
n # 3 of 30 ( Start time: 04 59 24 AM, 06 July 2020 )	
it's law states that the force F is proportional to the	
he correct option	
Length	
Dongation	
YTheight .	
Raza Ac	
	# 3 of 30 ( Start time: 04 59:34 AM, 06 July 2020 ) (s law starts that the force F is proportional to the e correct option Length Elongation Weight None of these

#TH401-Grand Quiz		Quiz Sta
uestion # 4 of 30 ( Start time: 04 59:58 AM, 06 July 2020 )		
$Ifz^3y^3dz +$	$x^3y^3dy = 0$ has the equivalent form as $d\left(\frac{1}{3}x^3y^3\right)$	= 0, then its solution $=$ .
elect the correct option		
0	$x^3 + y^3 = c$	
0	$x^3 - y^3 = c$	
0	$x^2y^2 = c$	
0	$\frac{r^2}{r^2} = c$	Raza Academy
	Statement of the local division of the local	-
P Type here to search		
		Char th
TH401 Grand Quiz		Guir Da
111401: Grand Quiz unstion # 5 of 30 ( Start time: 05 00:57 AM, 06 July 2020 )		Quiz St
P Type here to search TH401 Grand Quiz version # 5 of 30 ( Start time: 05 00:57 AM, 06 July 2020 ) Which of the following function would satisfy: $\frac{dy}{dx} = \frac{d^2y}{dx^2} = -$		Guir th
T1H401: Grand Quiz unstion # 5 of 30 ( Start time: 05 00:57 AM, 06 July 2020 ) Which of the following function would satisfy: $\frac{dy}{dx} = \frac{d^2y}{dx^2} = \cdots$		Gue to
Third 1: Grand Quiz version # 5 of 30 ( Start time: 05:00:57 AM, 00 July 2020 ) which of the following function would satisfy: $\frac{dy}{dx} = \frac{d^2y}{dx^2} = \cdots$ velocit the correct option $y = Ae^x$		Que fa
TH401-Grand Quiz unstion # 5 of 30 ( Start time: 05 00 57 AM, 06 July 2020 ) Which of the following function would satisfy: $\frac{dy}{dx} = \frac{d^2y}{dx^2} = .$ Elect the correct option		Que fa
Third 1: Grand Quiz version # 5 of 30 ( Start time: 05:00:57 AM, 00 July 2020 ) which of the following function would satisfy: $\frac{dy}{dx} = \frac{d^2y}{dx^2} = \cdots$ velocit the correct option $y = Ae^x$		Que fa
TH401: Grand Quiz version # 5 of 30 ( Start time: 05:00:57 AM, 08 July 2020 ) Which of the following function would satisfy: $\frac{dy}{dx} = \frac{d^2y}{dx^2} = \cdots$ veloci the correct option $y = Axx^2$		Que de

vestio	n # 6 of 30 ( Start time: 05:02:04 AM, 06 July 2020 )		
	ferential equation		
		$\frac{dy}{dx} - y = y^2$	
		dz	
fect t	he correct option		
	Bemouli's		
0			
	Homogeneous		
0			
-	Cauchy		
0			
	Bessel		Daza Acadomy
0			
1440	1.Grand Quiz		Raza Academy
estic	1: Grand Guitz in # 7 of 30 ( Start time: 105 02:40 AM, 06 July 2020 ) auxiliary equation 5(m*3) + m = 05 has roots 5m = 0.m + 1pm (	5 then the complementary function is	
1H40	n # 7 of 30 ( Start time: 05:02:40 AM, 06 July 2020 )	5 then the complementary function is	
ni40 estio	n # 7 of 30 ( Start time: 05:02:40 AM, 06 July 2020 )	5 then the complementary function is	
niii estio	n # 7 of 30 ( Start time: 05 02:40 AM, 06 July 2020 ) auxiliary equation 5(m*3) + m = 05 has roots 5m = 0.m + ipm (	5 Pren The complementary function is	
TH40 estio	n # 7 of 30 ( Start Sime: 05:02:40 ASK, 06 July 2020 ) sustliary equation 5(m*3) + m = 05 has roots 5m = 0.m = 1pm 0 he correct option	5 then the complementary function is	
inte me i lect t	n # 7 of 30 ( Start Sime: 05:02:40 ASK, 06 July 2020 ) sustliary equation 5(m*3) + m = 05 has roots 5m = 0.m = 1pm 0 he correct option	8 then the complementary function is	
ni40 estio	n # 7 of 30 ( Start Sime: 05:02:40 ASK, 06 July 2020 ) sustliary equation 5(m*3) + m = 05 has roots 5m = 0.m = 1pm 0 he correct option	5 Then The complementary function is	
inte estio tre i	n # 7 of 30 ( Start Sime: 05:02:40 ASK, 06 July 2020 ) sustliary equation 5(m*3) + m = 05 has roots 5m = 0.m = 1pm 0 he correct option	5 then the complementary function is	
interio	n # 7 of 30 ( Start time: 05 02-40 AM, 06 July 2020 ) auxiliary equation 5(m^3) + m = 05 has roots 5m + 0.m + ypm ( the correct option 5(y_ct) = (c_1) + (c_2)(cos x + (c_3)(sin x5	5 Pien the complementary function is	Quir 9
inte estio tre i	n # 7 of 30 ( Start time: 05 02-40 AM, 06 July 2020 ) auxiliary equation 5(m^3) + m = 05 has roots 5m + 0.m + ypm ( the correct option 5(y_ct) = (c_1) + (c_2)(cos x + (c_3)(sin x5	5 Then the complementary function is	
interio	n # 7 of 30 ( Start time: 05 02-40 AM, 06 July 2020 ) auxiliary equation 5(m^3) + m = 05 has roots 5m + 0.m + ypm ( the correct option 5(y_ct) = (c_1) + (c_2)(cos x + (c_3)(sin x5	5 Pen the complementary function is	Quir 9

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Quiz Start



MTH401:Grand Quiz	N	Quiz Start T
Question # 12 of 30 ( Start time: 05:09:09 AM, 06 July 2020 )	4	
In exponential model for the population growth		
	$P(t)=P_{t}e^{kt} If\ k>0,\ then\ \lim_{t\to\infty}\ P(t)=$	
Select the correct option		

0	0		
0	1		
0		×	
0		œ	Raza Academy

	11:Grand Quiz	Quiz Start 1
Juestic	on # 14 of 30 ( Start time: 05:11:58 AM, 06 July 2020 )	
Which	t of the following is a boundary value problem(BVP)?	
Select 1	the correct option	
	$\frac{d^2y}{dz^2} + y = 0$	
0	4° -	
0	$rac{d^2y}{dx^2}+y=0, x\in [-2,2]$	
0		
0	$rac{d^2y}{dx^2}+y=0,  y(1)=-2  ext{ and } y'(1)=2$	
0		
-	$rac{d^2y}{dx^2} + y = 0,  y(0) = 0   ext{and}  y\left(rac{x}{2} ight) = 2$	Daza Acadomy
0		Raza Academy
0		Raza Academy
0		Raza Academy
	11:Grand Quiz	Raza Academy
MT1+40		
MTH40 Questic	on # 15 of 30 ( Start time: 65:12:23 AM, 66 July 2020 )	
MTH40 Questic		
MTH40 Duestic $\frac{d^2y}{dx^2}$ +	on # 15 of 30 ( Start time: 65:12:23 AM, 66 July 2020 ) + $5\left(\frac{dy}{dx}\right)^3 - 3y = e^{ibx x}$ is an example of differential equation.	
MTH40 Suestic $\frac{d^2y}{dx^2}$ +	on # 15 of 30 ( Start time: 65:12:23 AM, 06 July 2020 ) + $5\left(\frac{dy}{dx}\right)^3 - 3y = e^{\sin x}$ is an example of differential equation.	
MTH40 Duestic $\frac{d^2y}{dx^2}$ +	on # 15 of 30 ( Start time: 05:12:23 AM, 06 July 2020 ) $+5\left(\frac{dx}{dx}\right)^3 - 3y = e^{\sin x}$ is an example of differential equation. $\downarrow$ the correct option	
MTH40 Duestic $\frac{d^2w}{dx^2}$ + Select 1	on # 15 of 30 ( Start time: 05:12:23 AM, 06 July 2020 ) $+5\left(\frac{dx}{dx}\right)^3 - 3y = e^{\sin x}$ is an example of differential equation. $\downarrow$ the correct option	
MTH40 Suestic $\frac{d^2y}{dx^2}$ +	on if 15 of 30 ( Start time: 65:12:23 AM, 06 July 2020 ) $+5\left(\frac{dy}{dx}\right)^3 - 3y = e^{\sin x}$ is an example of differential equation. the correct option ordinary linear	
$\frac{d^2y}{dx^2} + 0$	on if 15 of 30 ( Start time: 65:12:23 AM, 06 July 2020 ) $+5\left(\frac{dy}{dx}\right)^3 - 3y = e^{\sin x}$ is an example of differential equation. the correct option ordinary linear	
MTH40 Duestic $\frac{d^2w}{dx^2}$ + Select 1	an # 15 of 30 (Start time: 05:12:23 AM, 06 July 2020 ) $+5\left(\frac{dx}{dx}\right)^3 - 3y = e^{\sin x}$ is an example of differential equation. the correct option ordinary linear ordinary non-linear	
$\frac{d^2y}{dx^2} + 0$	the correct option ordinary linear $e^{\operatorname{rise} x}$ is an example of differential equation. the correct option	

		Quiz Star
uestion # 16 of 30 ( Sta	rt time: 05.13.40 AM, 06 July 2020 )	
	The integrating factor for the first order linear differential equation : $\frac{\mathrm{d}y}{\mathrm{d}x} + y\cot x = \int_{-\infty}^{\infty} \int_{-\infty}^{\infty$	$\sin^2 x \ is$
elect the correct option		
0	sin x	
0	cos z	
0	e the e	
0	e <sup>me</sup> Raza A	Academy
TH401:Grand Quiz		Quiz Sta
uestion # 17 of 30 ( Sta	rt time: 05:15:01 AM, 06 July 2020 ) ator of the function	Quiz Sta
What is annihilator opera		Quiz Sta
westion # 17 of 30 ( Sta	ator of the function $g(x)=4\sin x$	Quiz Sta
uestion # 17 of 30 ( Sta What is annihilator opera ?	ator of the function $g(x)=4\sin x$	Quiz Sta
uestion # 17 of 30 ( Ste What is annihilator open ? elect the correct option	ator of the function $g(x)=4\sin x$	Quiz St
vestion # 17 of 30 ( Ste What is annihilator opera elect the correct option	ator of the function $g(x)=4\sin x$ $\searrow$ $(D^2-1)$	Quiz St

## Question # 18 of 30 ( Start time: 05:16:39 AM, 06 July 2020 )

Which of following are explicit solutions of the differential equation:  $\frac{dy}{dx} = -\frac{x}{y}$ .

	$y = \pm \sqrt{4 + z}$				
0					
•	$y = \pm \sqrt{-4 + x^2}$				
0	$y = \pm \sqrt{4 - x^2}$				
0	$y = \pm \sqrt{-4 - x^2}$				
Ŭ				Raza Acad	lamy
				Naza Aca	Jenny
(TH40	11-Grand Quiz				Quiz Start
	11 Grand Quiz				Quiz Start
westic	w # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 )				Quiz Start
westic		, dy			Quiz Start
westic	w # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 )	e' dy	+ 2y = 3xy		Quiz Start
Classi	w # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 )	$e^{e^{t}} \frac{dy}{dx}$	+2y = 3xy		Quiz Start
Classi	n # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 ) fy the following differential equation	e' dy b	+ 2y = 3xy		Quiz Start
Classi	n # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 ) fy the following differential equation the correct option	e <sup>r</sup> dy D	+ 2y = 3xy		Quiz Start
classi classi	n # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 ) fy the following differential equation the correct option	e <sup>r</sup> <mark>dy</mark> ⊳	+ 2y = 3xy		Quiz Start
classi classi	In # 19 of 30 (Start time: 05:18:25 AM, 06 July 2020 ) by the following differential equation the correct option Separable and not linear	e <sup>r</sup> <mark>dy</mark> ⊳	+ 2y = 3xy		Quiz Start
	In # 19 of 30 (Start time: 05:18:25 AM, 06 July 2020 ) by the following differential equation the correct option Separable and not linear	₹ dy dz D	+ 2y = 3xy		Quiz Start
elect I	In # 19 of 30 ( Start time: 05:18:25 AM, 06 July 2020 ) by the following differential equation the correct option Separable and not linear Linear and not separable	e dy dr	+ 2y = 3xy		Quiz Start

TH401	1:Grand Quiz		Quiz S
restion	n # 20 of 30 ( Start time: 05:19:29 AM, 00	3 July 2020 )	
		For $f(x,y) = \frac{2x}{3y} + 7$ , $f(tx,ty) = -$	
elect th	he correct option		
		f(x,y)	
0	<i>tf(x,y</i> )	6	
0		tf(x,y)	
0		$t^3f(x,y)$	Raza Academy
	I:Grand Quiz		
TH401	n # 21 of 30 ( Start time: 05:20:56 AM, 00		Quiz Si
TH401	n # 21 of 30 ( Start time: 05:20:56 AM, 00	of the differential equation: $\frac{dy}{dx} = \frac{2a}{y}$ for value(s) of $a$ .	
TH401 westion	n # 21 of 30 ( Start time: 05:20:56 AM, 00		
TH401 westion	n # 21 of 30 ( Start time: 05:20:56 AM, 00 mily of parabolas $y^2 = 4\alpha x$ are solutions	of the differential equation: $\frac{dy}{dx} = \frac{2a}{y}$ for value(s) of $a$ .	
TH401 uestion The far	n # 21 of 30 ( Start time: 05:20:56 AM, 0f mily of parabolas $y^2 = 4\alpha x$ are solutions the correct option	of the differential equation: $\frac{dy}{dx} = \frac{2a}{y}$ for value(s) of $a$ .	
TTH401 uestion The fam	a # 21 of 30 ( Start time: 05:20:56 AM, 04 mily of parabolas $y^2 = 4\alpha x$ are solutions the correct option	of the differential equation: $\frac{dy}{dx} = \frac{2a}{y}$ for value(s) of $a$ .	

TH401:Grand Quiz		Quiz Start
restion # 22 of 30 ( Start time: 05:22:15 AM, 06 .	July 2020 )	
he differential equation of orthogonal trajectory to	the family of curves	
	x - 2y = c	
lect the correct option	Q	
0	$\frac{dy}{dx} = -\frac{1}{2}$	
Ŭ	dz 2	
0	$\frac{dy}{dx} = \frac{1}{2}$	
	dz = 2	
	$\frac{dy}{dx} = 2$	
0	$\frac{dx}{dx} = x$	
	dy	Design of the second se
0	$\frac{dy}{dx} = -2$	Raza Academy

MTH401	Grand Quiz		Quiz Start T
Question	# 23 of 30 ( Start time: 05:23:30 AM, 06 July 2020 )		
	w	hich of the following is first order linear equation in un	known variable y?
Select th	e correct option		
0		$x\frac{dy}{dx} + (\sin x)  y = \cos x$	
0		$y\frac{dx}{dy} + (\sin y)  x = \cos y$	
0		$y\frac{dx}{dy} + (\sin y)  x = \cos x$	
0		$y\frac{dx}{dy} + (\sin x)  x = \cos y$	Raza Academy
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Quiz Start T

MTH401:Grand Quiz

Question # 24 of 30 ( Start time: 05:24:23 AM, 06 July 2020 )

Which of following would be a constant solution of the separable differential equation:  $rac{dy}{dx}=e^{x+y}$  ?

MTH401:Grand Quiz

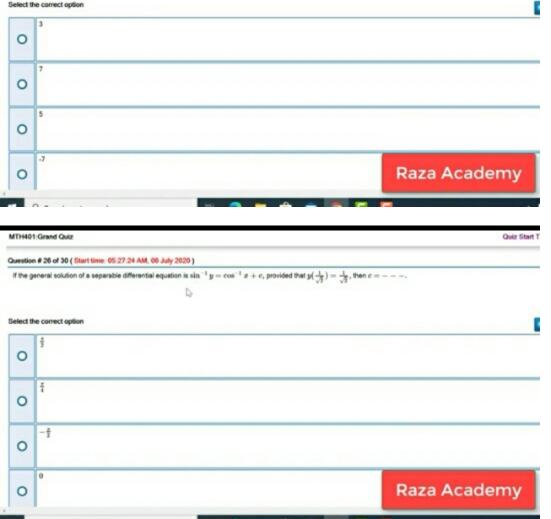
Question # 25 of 30 ( Start time: 05:25:43 AM, 06 July 2020 )

The leading coefficient in the differential equation

$$\implies 3x\frac{d^2y}{dx^2} - 7x\frac{dy}{dx} + 5y = 0$$

Quiz Start T

Select the correct option



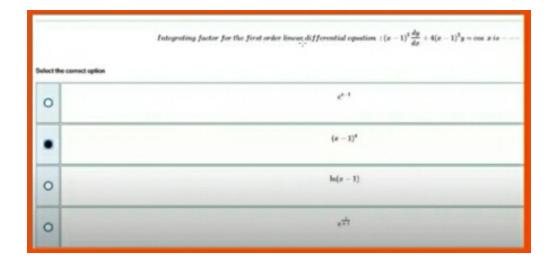
TH401:Grand Quiz				Quiz S
uestion # 27 of 30 ( Start tin	e: 05:29:12 AM, 06 July 2020 )			
Which of following is an impl	it solution of the differential equation:	$\frac{dy}{dx} = -\frac{x}{y}.$		
elect the correct option	Þ			
x + y + 4 = 0				
0				
$x^2 + y^2 - 4 = 0$				
0				
$x^2 - y^2 + 4 = 0$				
$x^{*} - y^{*} + 4 = 0$				
$x^2 - y^2 - 4 = 0$				Raza Academy
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			-	
	_			
TH401:Grand Quiz	-			Quiz S
	e: 05:31:18 AM, 06 July 2020 )			
	e: 05.31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^2_{[x]}W(1, x^2) = $	
uestion # 28 of 30 ( Start lin	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^{2}_{ij}W(1, x^{2}) = $	
uestion # 28 of 30 ( Start lin	e: 05.31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^{2}_{[k]}W(1,x^{2}) = $	
elect the correct option	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^{2}_{[c]}W(1, x^{2}) = $	
uestion # 28 of 30 ( Start lin	e: 06.31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^2_{[k]}W(1,x^2) =$	
elect the correct option	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x_{\downarrow}^{2}W(1, x^{2}) = $	
elect the correct option	e: 05.31.18 AM, 06 July 2020 )	Wronskian of 1 and	$x^2_{ij}W(1, x^2) = $	
elect the correct option	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x_{\frac{1}{2}}^{2}W(1,x^{2}) = $	
elect the correct option	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^{2}_{j_{0}}W(1, x^{2}) = $	
elect the correct option	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x_{\frac{1}{2}}^{2}W(1,x^{2}) = $	
elect the correct option       0       2x       0       x	e: 05:31:18 AM, 06 July 2020 )	Wronskian of 1 and	$x^{2} \otimes W(1, x^{2}) = $	

MTH401:Gr	and Quiz Quiz Start
Question # 2	9 of 30 ( Start time: 05:31:47 AM, 06 July 2020 )
	For the non - exact differential equation $M(x, y)dx + N(x, y)dy = 0$ , if $\frac{\frac{\partial M}{\partial y} - \frac{\partial N}{\partial z}}{N}$ is a function of x, then the integrating factor is $\sum_{i=1}^{N} \frac{1}{N} = 0$ .
Select the co	mect option
0	function of x also

0	function of y	
0		multi - variable function of both ${\bf x}$ and ${\bf y}$
0	constant	Raza Academy

ed Quiz	Quiz Start
of 30 ( Start time: 05:33:00 AM, 06 July 2020 )	
al roots of a differential equation, then the general solution is	
rect option	
$y_c = c_1 e^{2x} + c_2 e^{3x} + c_3 e^{5x}$	
$y_c = c_1 e^{2x} + c_2 e^{-3x} + c_3 e^{5x}$	ą
$y_c = c_1 e^{2x} + c_1 e^{-3x} + c_1 e^{5x}$	
$y_c = \langle  (c_1 + c_2 + c_3)e^{3x} + e^{2x} \rangle$	Raza Academy
	al roots of a differential equation, then the general solution is ect option $y_c = c_1 e^{2x} + c_2 e^{3x} + c_3 e^{5x}$ $y_c = c_1 e^{2x} + c_2 e^{-3x} + c_3 e^{5x}$ $y_c = c_1 e^{2x} + c_2 e^{-3x} + c_3 e^{5x}$

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_	The differential equation $\frac{dy}{dx} = \frac{y_1}{x}$ is	
Select 8	Be correct option	
•	Faad	
0	Non esact	
0	Non-Inear	
0	Interpretable	

Select the correct option	The differential equation $(1 + \ln xy)dx + (1 + \frac{x}{y})dy = 0$ is exact because
0	$rac{\partial M}{\partial y} = rac{\partial N}{\partial x} = rac{1}{x}$
-	$\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y} = \frac{1}{y}$
•	$rac{\partial M}{\partial y} - rac{\partial N}{\partial x} = rac{1}{y}$
0	$\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y} = \frac{1}{x}$

Which of the following is true about Select the correct option	$f(x,y) = x^2 - y^2 + 3?$	
•	$f(x,y) \neq t^2 f(x,y)$	
0	$f(x,y) = t^3 f(x,y)$	_
0	$f(x,y) = -t^2 f(x,y)$	
0	f(x,y) = tf(x,y)	

Which	of following are explicit solutions of the differential equation: $\frac{dy}{dz}=-\frac{\pi}{y},$	
Select #	he correct option	0.64
0	$y = \pm \sqrt{4 + x}$	
0	$y = \pm \sqrt{-4 + x^2}$	
•	$y = \pm \sqrt{4 - x^2}$	
-	$y = \pm \sqrt{-4-x^2}$	

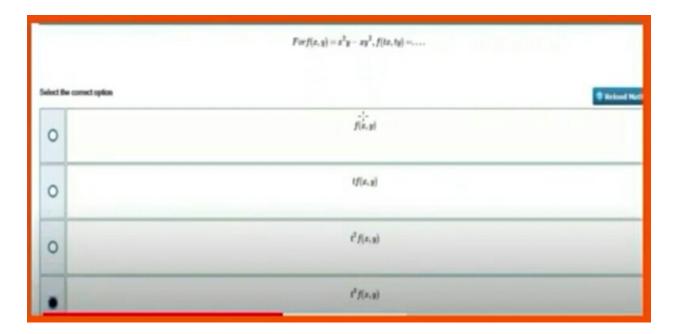
Which of the following substitution will transform the differential equation: $\frac{dy}{dx} = \frac{y}{x} + \sec(\frac{y}{x})$ , in to separable form?		
Select the correct option		
0	$\mathbf{y} = \mathbf{r} + \mathbf{z}$	
0	¥ = x - x	
•	y - 12	
0	z = 13	

4	$\frac{d^3 x}{dd^2} + 5 \left(\frac{dy}{dx}\right)^2 - 3y = e^{d \theta x \cdot x} \text{ is an example of } d fluential equation.}$		
Select 8	he consct option		
	ordinary linear		
0	ordinary non-linwar		
0	partial invar		
0	partial non-linear		

4	$\frac{d^3y}{dx^2} + 5\left(\frac{dy}{dx}\right)^3 - 3y = e^{i\Phi(x)} \text{ is an example of } \text{ differential equation.}$		
Select 1	e correct option		
•	ordinary linear		
0	ardinary non-linear		
0	patal levar		
0	partial non-linear		

Select the	$A multi-miniske \langle -function \rangle \langle -f(x,y) \rangle - is \langle -anid \rangle - be \langle -bomogeneous \rangle - if \langle -Sif(tx,ty) = t^a f(x,y), \langle -uchere \rangle - n \in$ Select the correct option		
0	$\mathbb{N} = Set of naturals$		
0	$\mathbb{Z} = Set of integers$		
•	Q = Set of Rationals		
	R = Set of Reals		

Separa	able form of the differential equation: $\frac{dy}{dx}=y-1$ is, where $r=y-1$ .
Select #	he conset option
0	$\frac{dx}{\pi} = d\sigma$
0	dz = vde
•	$\frac{dx}{v} = dx$
0	* - *



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d	
'	

	Separable form $f(y)dy + g(x)dx = 0$ , of the differential equation: $x \sin ydx + (x^2 + 1) \cos ydy = 0$ is——.		
0	$\tan p dy + \frac{s}{s^2 + 1} dz = 0$		
•	$\cot y dy + \frac{x}{x^{l+1}} dx = 0$		
0	$\tan y dy + \frac{x}{x^{\ell-1}} dx = 0$		
-	$\cot y dy + \frac{x}{x^{t-1}} dx = 0$		

	Separable form $f(y)dy + g(x)dx = 0$ , of the differential equation: $x \sin ydx + (x^2 + 1) \cos ydy = 0$ is—	
Select 8	te convict option	
0	$\tan ydy + \frac{x}{x^2 + 1}dx = 0$	
•	$\cot ydy + \frac{x}{x^{\ell+1}}dx = 0$	
0	$\tan pdy + \frac{x}{p^{\ell-1}}dx = 0$	
-	$\cot ydy + \frac{x}{x^{\ell-1}}dx = 0$	

Which of following is an example of Homogeneous f	action?	6
0	$f(x,y) = \sin\left(\frac{1}{x}\right)$	
•	$f(x,y) = \sin\left(\frac{x}{y}\right)$	
0	$f(x,y) = \sin x$	
0	$f(x, y) = \sin xy$	

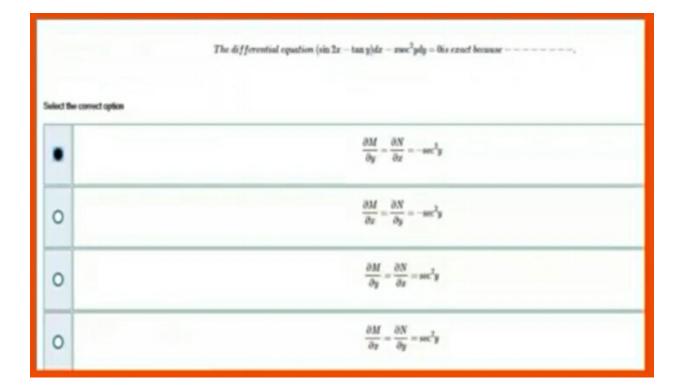
		$+ a_{n-1}(x)\frac{d^{n-1}y}{dx^{n-1}} + \dots + a_2(x)\frac{d^2y}{dx^2} + a_1(x)\frac{dy}{dx} + a_k(x)y = 0, \text{ where },$
O	be connect option $a_0(x)=0$	
0	$a_0(x) \neq 0$	
0	$a_n(x) = 0$	
	$a_{\alpha}(x) \neq 0$	

Which	if the following is an initial value problem (1/P)?
Select 8	e correct option
0	$\frac{d_{1}}{dt} + y = 0$
0	$\frac{x^2y}{dx^2} + y = 0, x \in [-2, 2]$
•	$\frac{a^2 g}{da^2} + g = 0, g(1) = -2$ and $g'(1) = -2$
	$\frac{d^2y}{dy^2} + y = 0, y(0) = -2 \mod y'\left(\frac{y}{2}\right) = -2$

$Forf(x,y) = x^2y - xy^2, f(tx,ty) = \dots$		
Select the correct option		
0	f(x,y)	
0	tf(x, y)	
0	$t^2 f(x, y)$	
	$t^2 f(x,y)$	

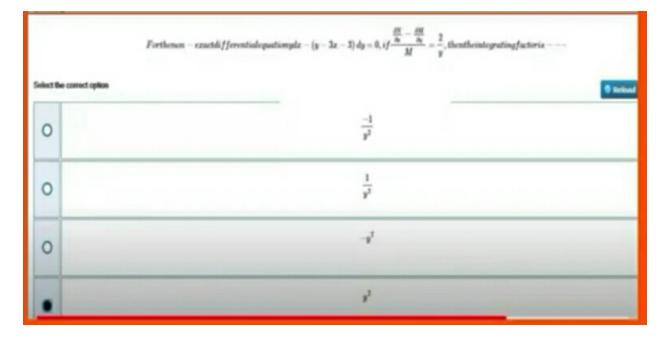
Which	Which of the following is an initial value problem (1/P)?			
÷				
Select 8	be connect option			
0	$\frac{d_{12}}{dx^2} + y = 0$			
0	$\frac{d_{12}}{dx} + y = 0, x \in [-2, 2]$			
•	$\frac{d^2y}{dx^2} + y = 0, y(1) = -2$ and $y'(1) = -2$			
	$\frac{d^2y}{dd^2} + y = 0, y(0) = -2 \text{ and } y'\left(\frac{x}{2}\right) = -2$			

	On comparing the differential equation $dy = dx$ with standard form of $M(x,y)dx + N(x,y)dy = 0$ , we obtain $\cdots$			
Select the	e consci option			
0	M(x,y) = N(x,y)			
•	$\left M(x,y)\right =\left N(x,y)\right $			
0	$rac{\partial M(x,y)}{\partial x} eqrac{\partial N(x,y)}{\partial y}$			
0	$rac{\partial M(x,y)}{\partial y} eqrac{\partial N(x,y)}{\partial x}$			



Which of the following substitution will transform the differential equation : $\frac{dy}{dx} = \frac{y}{x} + \sec\left(\frac{y}{x}\right)$ , in to separable form?		
y=x+z		
3-4-3		
y = 10		
<i>z</i> = 19		
	2 = 43 2 = 44 2	

The p	The general linear ordinary differential equation of order <b>n</b> is: $a_n(x)\frac{d^n x}{dx^n} + a_{n-1}(x)\frac{d^n x}{dx^{n-1}} + \dots + a_2(x)\frac{d^n x}{dx^2} + a_1(x)\frac{dx}{dx} + a_2(x)y = 0$ , where		
Select 8	the connect option	1 ac	
0	$a_0(x) = 0$		
0	$a_0(x) \neq 0$		
0	$a_{r}(x) = 0$	*	
	$n_{e}(x) \neq 0$		



Which of following is an example of Homogeneous function?		
	-1-	
Select the correct option		
0	$f(x,y) = \min\left(rac{1}{x} ight)$	
•	$f(x,y) = \sin\left(\frac{x}{y}\right)$	
0	$f(x,y) = \sin x$	
0	$f(x,y) = \sin xy$	

0	$f(x,y) = \sin xy$		
The degree of the differential equation $\frac{dy}{dx} + 5\left(\frac{d^2y}{dx^2}\right)^2 = e^{i\mathbf{k}\cdot\mathbf{x}}$ is			
Select the correct option			
	0		
0			
	1		
0			
	6		
0			
_	3		

Which of the following equil be a particular solution of the differential equation: $rac{ds}{ds}=47$			
	*		
Select the carried option			
•	y = 4x + a		
0	y = az + 4		
0	y = ar + a		
0	y - 4x + 4		

Integrating factor for the first order linear differential equation $:(x-1)^3 \frac{dy}{dx} + 4(x-1)^3 y = \cos x$ is		
Select the correct splice	21	
•	$(x-1)^4$	
0	$\ln(x-1)$	
0	e	

Separa	the form $f(y)dy + g(x)dx = 0$ , if the differential equation, $x \sin ydx + (x^2 + 1) \cos ydy = 0$ is—	
O	tan ydy + $\frac{x}{x^{l+1}}dx = 0$	
	$\cot y dy + \frac{x}{x^2 + 1} dz = 0$	
0	$\tan ydy + \frac{x}{x^{l-1}}dx = 0$	
	$\cot y dy + \frac{x}{x^{d-1}} dx = 0$	

-	spr-Insar, 3		
Which	Which of the following is a boundary value problem(BVP)?		
Select the correct option			
0			
0	$\frac{d^2y}{dz^2} + y = 0, z \in [-2, 2]$		
0	$\frac{d^2y}{dx^2} + y = 0, y(1) = -2 \text{ and } y'(1) = 2$		
•	$\frac{d^4 y}{dx^2} + y = 0, \ y(0) = 0 \text{ and } y\left(\frac{x}{2}\right) = 2$		

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