Started on	Wednesday, 28 April 2021, 11:00 AM
State	Finished
Completed on	Wednesday, 28 April 2021, 11:20 AM
Time taken	20 mins
Grade	**8.00** out of 12.00 (**67%**)

Question 1

Incorrect

Mark 0.00 out of 2.00

What is the reduced linear differential equations with constant coefficients for

$$(1+x)^2\frac{d^2y}{dx^2}+(1+x)\frac{dy}{dx}+y=sin[2log(1+x)]$$

Select one:

a. $(D^2+2D+1)y=sin2t$

b. $(D^2+D+1)y=sin2t$ ✖

c. $(D^2+1)y=sin2t$

d. $(D^2+1)y=sine^t$

Your answer is incorrect.

The correct answer is: $(D^2+1)y=sin2t$

Question 2

Correct

Mark 2.00 out of 2.00

The general solution of $\frac{d^2y}{dx^2}+y=sin2x$ is y=---

Select one:

a. $c_1cosx+c_2sinx-\frac{1}{3}cos2x$

b. $c_1cosx+c_2sinx-\frac{1}{3}sin2x$ ✔

c. $c_1e^x+c_2e^{-x}-\frac{1}{3}sin2x$

d. $c_1e^x+c_2e^{-x}-\frac{1}{3}cos2x$

Your answer is correct.

The correct answer is: $c_1cosx+c_2sinx-\frac{1}{3}sin2x$

Question 3

Correct

Mark 1.00 out of 1.00

The general solution of $\frac{d^2y}{dx^2} - y = 0$ is y=-----

Select one:

a. $(c_1 + c_2x)e^{-x}$

b. $(c_1 + c_2x)e^{x}$

c. $c_1e^{x} + c_2e^{-x}$

d. $c_1cosx + c_2sinx$

Your answer is correct.

The correct answer is: $c_1e^{x} + c_2e^{-x}$

Question 4

Correct

Mark 1.00 out of 1.00

The linear differential equation whose auxiliary equation has the roots 2,3 is

Select one:

a. $\frac{d^2y}{dx^2} - 6\frac{dy}{dx} + 5y = 0$

b. $\frac{d^2y}{dx^2} - 5\frac{dy}{dx} + 6y = 0$

c. $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} + 3y = 0$

d. $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = 0$

Your answer is correct.

The correct answer is: $\frac{d^2y}{dx^2} - 5\frac{dy}{dx} + 6y = 0$

Question 5

Correct

Mark 1.00 out of 1.00

If the differential equation M dx+N dy=0 is homogeneous differential

equation then integrating factor is------

Select one:

a. $\frac{1}{Mx+Ny}$

b. $\frac{1}{Ny}$

c. $\frac{1}{Mx}$

d. $\frac{1}{Mx-Ny}$

Your answer is correct.

The correct answer is: $\frac{1}{Mx+Ny}$

Question 6

Correct

Mark 1.00 out of 1.00

What is the integrating factor of
$xdy - ydx + a(x^2 + y^2)dx = 0$

Select one:

a. $\frac{1}{x^2+y^2}$

b. $\frac{1}{x^2}$

c. $\frac{1}{x^2-y^2}$

d. $\frac{1}{y^2}$

Your answer is correct.

The correct answer is: $\frac{1}{x^2+y^2}$

Question 7

Incorrect

Mark 0.00 out of 2.00

Solution of simultaneous linear differential equations $x + \frac{dy}{dt} = 0, \frac{dx}{dt} + y = 0$

Select one:

a. $x = -c_1e^t + c_2e^{-t}, y = c_1e^t + c_2e^{-t}$

b. $x = -c_1e^t + c_2e^{-t}, y = c_1e^{2t} + c_2e^{-2t}$ ✖

c. $x = -c_1e^{2t} + c_2e^{-2t}, y = c_1e^t + c_2e^{-t}$

d. non of these

Your answer is incorrect.

The correct answer is: $x = -c_1e^t + c_2e^{-t}, y = c_1e^t + c_2e^{-t}$

Question 8

Correct

Mark 1.00 out of 1.00

To reduce $(3x-2)^2\frac{d^2y}{dx^2} + 4(3x-2)\frac{dy}{dx} + 6y = sin(3x-2)$ into linear differential equation with constant coefficients which transformation is used

Select one:

a. $3x = e^t$

b. $3x - 2 = logt$

c. $x = e^t$

d. $3x - 2 = e^t$ ✔

Your answer is correct.

The correct answer is: $3x - 2 = e^t$

Question 9

Correct

Mark 1.00 out of 1.00

If one solution of the differential equation $\frac{d^2y}{dx^2} + 4y = 0$ is y=sin 2x then the second solution is

Select one:

a. y=cos 2x ✔

b. y= 2 cosx

c. y= sinx

d. y=2 sinx

Your answer is correct.

The correct answer is: y=cos 2x

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