Question 19

Not yet answered

Marked out of 4.00

Flag question

The differential equation
$xy' - y\sin x + y^3 = 0$ is

Select one:

- Linear
- Homogeneous
- Bernoulli
- None
- Exact

Question 20

Not yet answered

Marked out of 4.00

Flag question

Question 1

Not yet answered

Marked out of 4.00

Flag question

A spherical raindrop evaporates at a rate proportional to its radius r. A differential equation for its volume is

Select one:

- $V'(t) = -aV^3$ for some $a > 0$
- $V'(t) = -aV^{1/3}$ for some $a > 0$
- None
- $V'(t) = -aV$ for some $a > 0$
- $V'(t) = -aV^{2/3}$ for some $a > 0$

Clear my choice

in the interval $(0, \infty)$.

- A solution is not guaranteed to exist in the interval $(0, \infty)$.
- A solution exists on a subinterval of the interval $(0, \infty)$ but not necessarly on $(0, \infty)$
- None

Question **2**

Not yet answered

Marked out of 4.00

Flag question

The general solution of the differential equation $(y^4 + 1)dx + 4xy^3dy = 0$ is

Select one:

- $y(x) = (\frac{c}{x} + 1)^{1/4}$
- None
- $y(x) = cx^{-1/4}$
- $y(x) = (\frac{c}{x} - 1)^{1/4}$
- $y(x) = (cx - 1)^{1/4}$

Consider the initial value problem $y' = y + t, y(0) = 0$. Using Picard's method,

Select one:

- $\phi_n(t) = \sum_{k=1}^{n} \frac{t^k}{k!}$
- $\phi_n(t) = \sum_{k=2}^{n+1} \frac{t^k}{k!}$
- $\phi_n(t) = \sum_{k=1}^{n+1} \frac{t^k}{k!}$
- None
- $\phi_n(t) = \sum_{k=2}^{n} \frac{t^k}{k!}$

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- $\phi_n(t) = \sum_{k=1}^{n+1} \frac{t^k}{k!}$
- None
- $\phi_n(t) = \sum_{k=2}^{n} \frac{t^k}{k!}$

Water containing 10 gram of salt per Liter is poured into an empty tank at a rate of 4 Liters per minute and is permitted to leave the tank at a rate of 2 Liters per minute. The quantity of salt in the tank at $t = 25$ min

Select one:

- 500 gram
- None
- 25 gram
- 200 gram
- 50 gram

Not yet answered

Marked out of 4.00

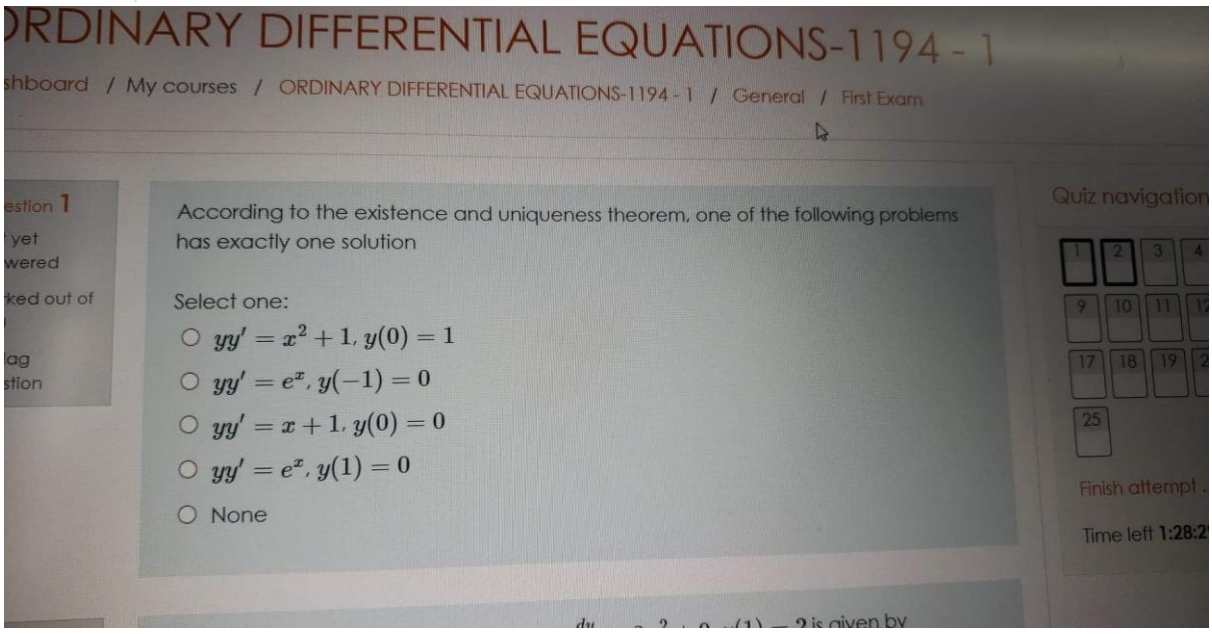
Flag question

The differential equation
$x^2y + y^3 = 2xy^2y'$ is

Select one:

- Exact
- Homogeneous
- None
- Seperable
- Linear

Next page



$V'(t) = -aV^{\gamma}$ for some $a > 0$

Clear my choice

Question 18

Not yet answered

Marked out of 4.00

Flag question

The largest interval in which a solution of the initial value problem
$(t+1)(t-3)y' + \ln|t|y = t, y(1) = 2$
is certain to exist

Select one:

- None
- $(0, \infty)$
- $(0, 3)$
- $(0, 2)$
- $(-1, 0)$

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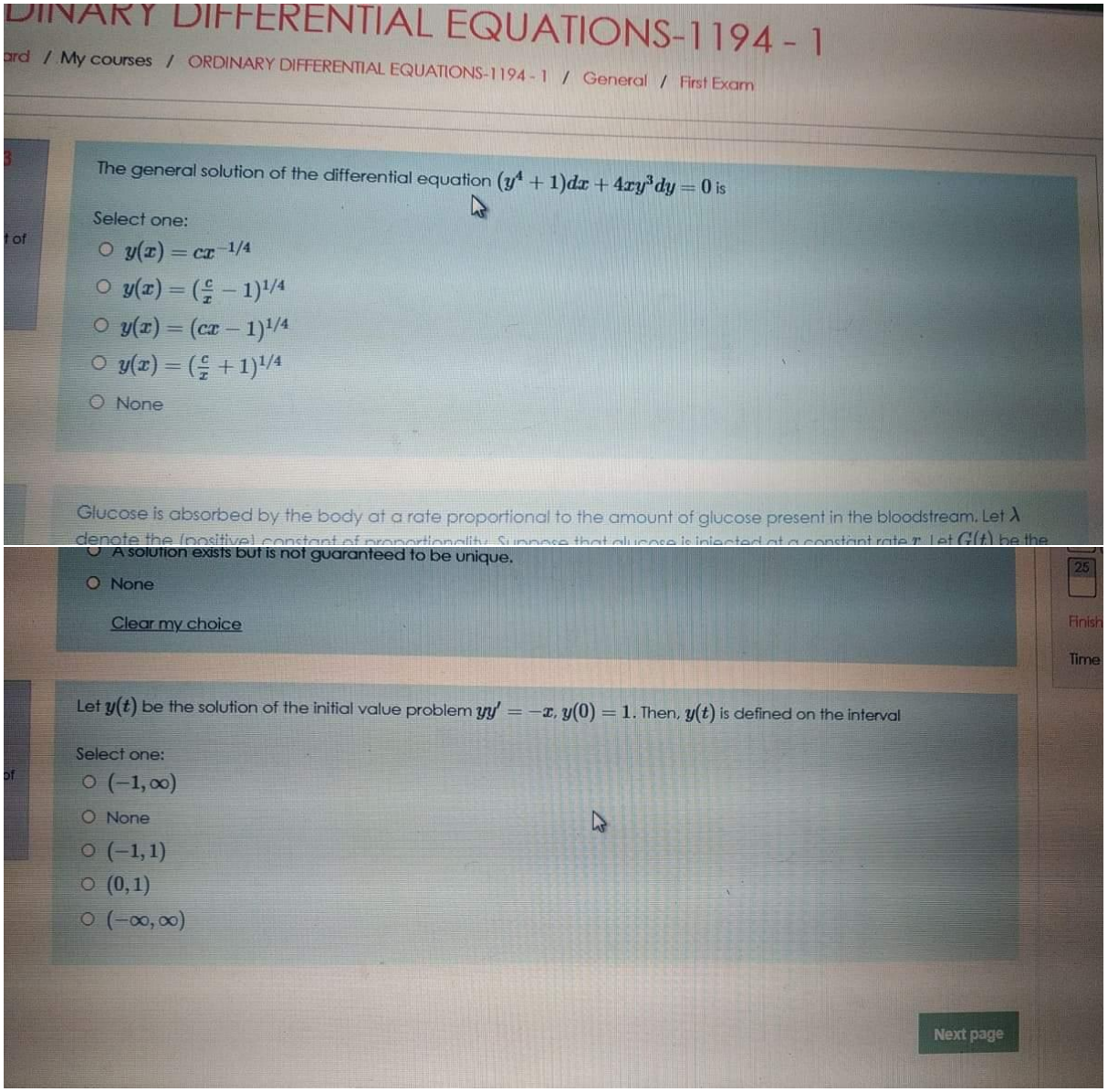
← Lecture Notes Sec.3.1

Jump to...


DINARY DIFFERENTIAL EQUATIONS-1194 - 1
ard / My courses / ORDINARY DIFFERENTIAL EQUATIONS-1194 - 1 / General / First Exam
The general solution of the differential equation $(y^4+1)dx+4xy^3dy=0$ is
Select one:
$y(x)=cx^{-1/4}$
$y(x)=(\frac{c}{x}-1)^{1/4}$
$y(x)=(cx-1)^{1/4}$
$y(x)=(\frac{c}{x}+1)^{1/4}$
None
Glucose is absorbed by the body at a rate proportional to the amount of glucose present in the bloodstream. Let λ
A solution exists but is not guaranteed to be unique.
None
Clear my choice
25
Finish
Time
Let $y(t)$ be the solution of the initial value problem $yy'=-x$, $y(0)=1$. Then, $y(t)$ is defined on the interval
Select one:
$(-1,\infty)$
None
$(-1,1)$
$(0,1)$
$(-\infty,\infty)$
Next page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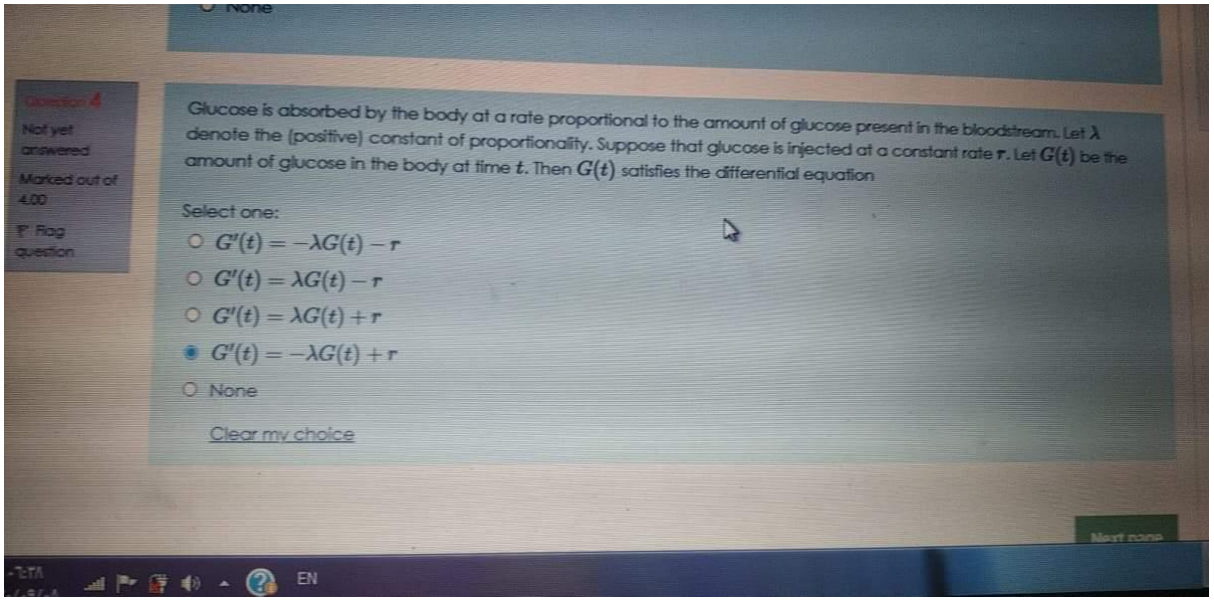
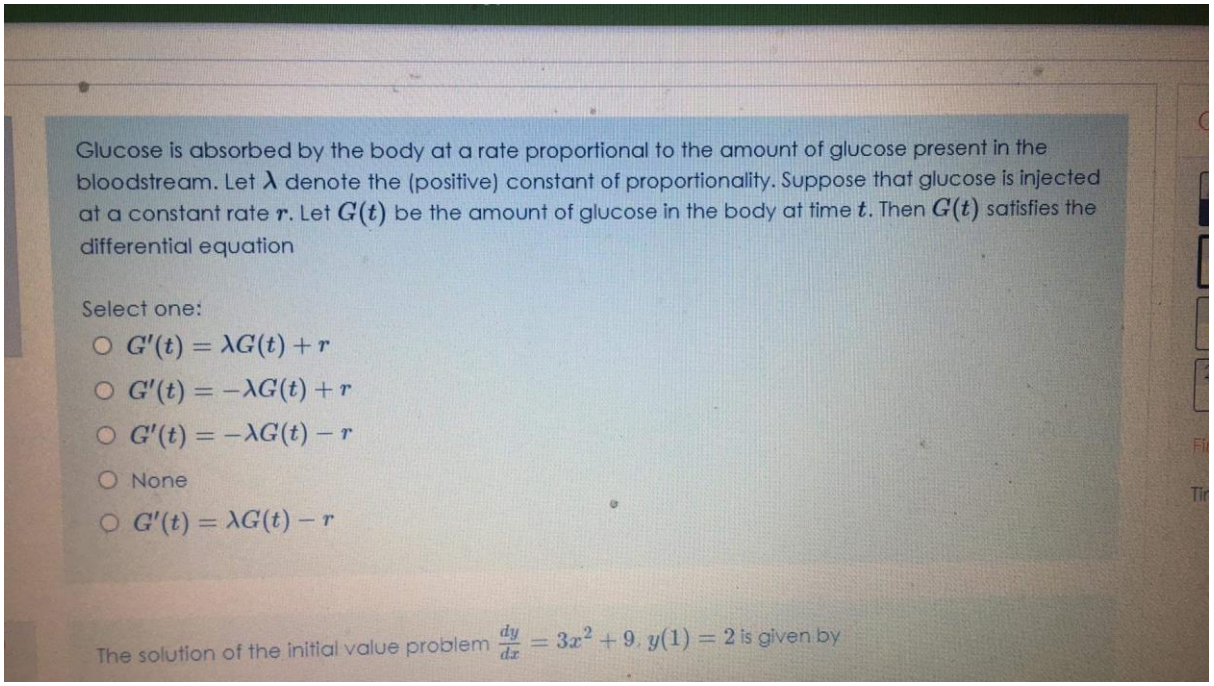
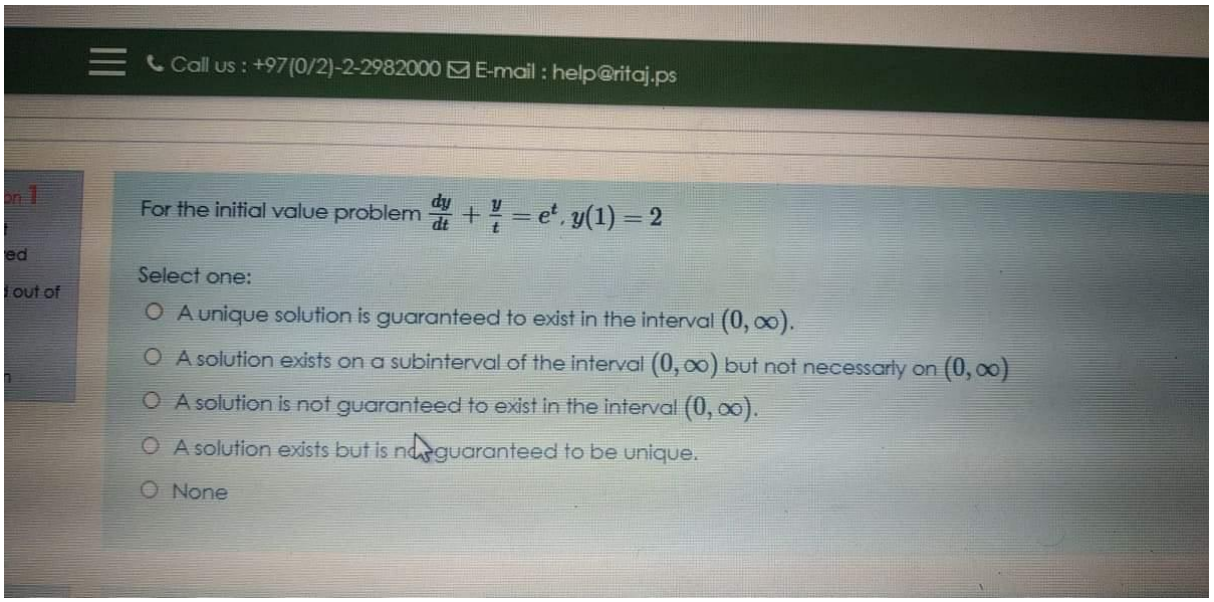

None
Question 4
Not yet answered
Marked out of 4.00
Flag question
Glucose is absorbed by the body at a rate proportional to the amount of glucose present in the bloodstream. Let λ denote the (positive) constant of proportionality. Suppose that glucose is injected at a constant rate r. Let $G(t)$ be the amount of glucose in the body at time t. Then $G(t)$ satisfies the differential equation
Select one:
$G'(t) = -\lambda G(t) - r$
$G'(t) = \lambda G(t) - r$
$G'(t) = \lambda G(t) + r$
$G'(t) = -\lambda G(t) + r$
None
Clear my choice
Next page
EN


Glucose is absorbed by the body at a rate proportional to the amount of glucose present in the bloodstream. Let λ denote the (positive) constant of proportionality. Suppose that glucose is injected at a constant rate r. Let $G(t)$ be the amount of glucose in the body at time t. Then $G(t)$ satisfies the differential equation
Select one:
$G'(t) = \lambda G(t) + r$
$G'(t) = -\lambda G(t) + r$
$G'(t) = -\lambda G(t) - r$
None
$G'(t) = \lambda G(t) - r$
The solution of the initial value problem $\frac{dy}{dx} = 3x^2 + 9$, $y(1) = 2$ is given by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For the initial value problem $\frac{dy}{dt} + \frac{y}{t} = e^t, y(1) = 2$
Select one:
A unique solution is guaranteed to exist in the interval $(0, \infty)$.
A solution exists on a subinterval of the interval $(0, \infty)$ but not necessarily on $(0, \infty)$
A solution is not guaranteed to exist in the interval $(0, \infty)$.
A solution exists but is not guaranteed to be unique.
None

Question 7

Not yet answered

Marked out of 4.00

Flag question

The initial value problem $y' = x(y-1)^{2/3}$, $y(x_0) = y_0$ has a unique solution if

Select one:

- $x_0 = 1$
- $x_0 \neq 1$
- $y_0 = 1$
- None
- $y_0 \neq 1$

Question 8

Not yet answered

Marked out of 4.00

Flag question

The solution of the initial value problem $y'y'' = t, y'(1) = 1, y(1) = \frac{1}{2}$ is

Select one:

- None
- $y(t) = t - \frac{1}{2}$
- $y(t) = \frac{t^2}{2}$
- $y(t) = t$
- $y(t) = t + \frac{1}{2}$

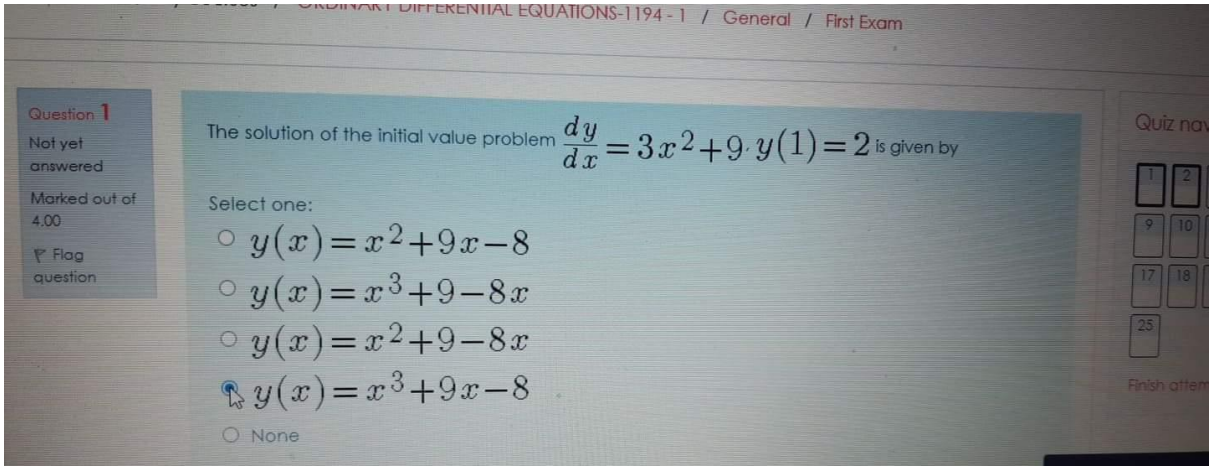
Clear my choice

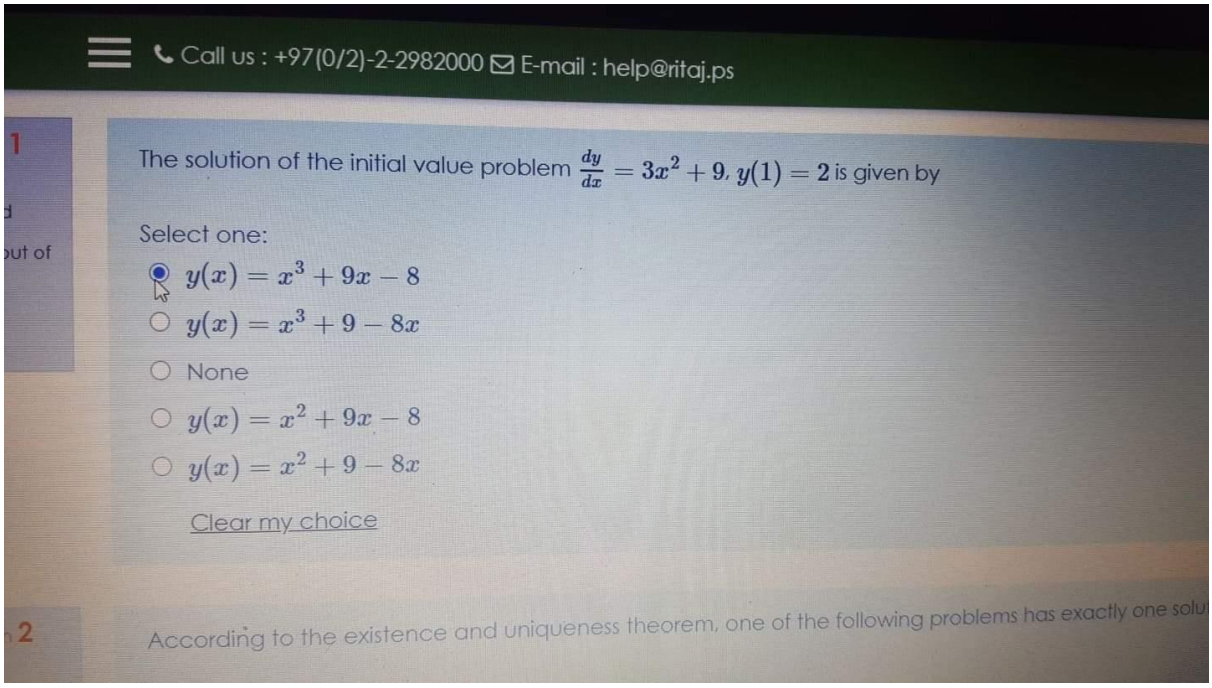
The general solution of $y' + y = y^2$ is

Select one:

- $y(t) = 1 + ce^t$
- $y(t) = \frac{1}{-1+ce^t}$
- $y(t) = \frac{1}{1+ce^t}$
- None
- $y(t) = \frac{1}{1+ce^{-t}}$

Clear my choice


ORDINARY DIFFERENTIAL EQUATIONS-1194 - 1 / General / First Exam
Question 1
Not yet answered
Marked out of 4.00
Flag question
The solution of the initial value problem $\frac{dy}{dx}=3x^2+9, y(1)=2$ is given by
Select one:
$y(x)=x^2+9x-8$
$y(x)=x^3+9-8x$
$y(x)=x^2+9-8x$
$y(x)=x^3+9x-8$
None
Quiz nav
Finish attem


Call us : +97(0/2)-2-2982000 E-mail : help@ritaj.ps
The solution of the initial value problem $\frac{dy}{dx}=3x^2+9, y(1)=2$ is given by
Select one:
$y(x)=x^3+9x-8$
$y(x)=x^3+9-8x$
None
$y(x)=x^2+9x-8$
$y(x)=x^2+9-8x$
Clear my choice
According to the existence and uniqueness theorem, one of the following problems has exactly one solu

None

Clear my choice

Question 10

Not yet answered

Marked out of 4.00

Flag question

The differential equation $y^2x + 2y'e^x = 0$ is

Select one:

- Seperable
- Linear
- None
- Homogeneous
- Exact

Next pag

← Lecture Notes Sec.3.1

Jump to...

Lecture 3.3+3.4 -

$y = \frac{-2}{x^2+c}$

Clear my choice

The general solution of $\frac{dy}{dx} = e^{x-y}$ is

Select one:

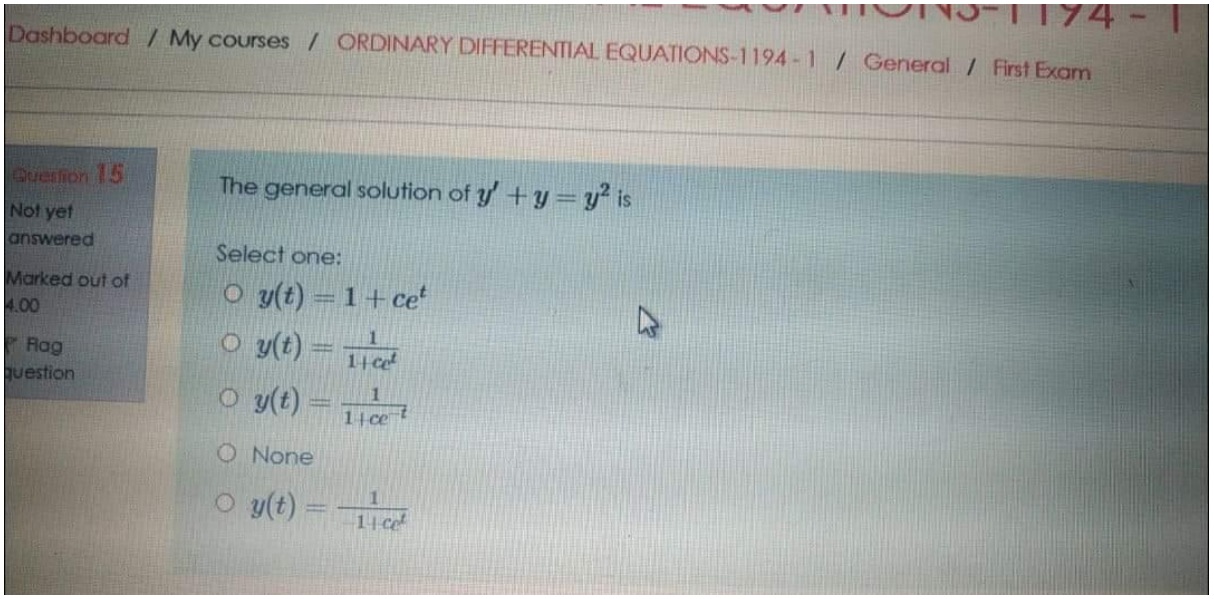
- $y = \ln(-e^x + c)$
- $y = \ln(e^{-x} + c)$
- $y = \ln(e^x + c)$
- None
- $y = \ln(x + c)$

Clear my choice

For the initial value problem $\frac{dy}{dt} + \frac{y}{t} = e^t$, $y(1) = 2$

Select one:

- A solution exists but is not guaranteed to be unique.
- A unique solution is guaranteed to exist in the interval $(0, \infty)$.
- A solution is not guaranteed to exist in the interval $(0, \infty)$.
- A solution exists on a subinterval of the interval $(0, \infty)$ but not necessarly on $(0, \infty)$
- None


Dashboard / My courses / ORDINARY DIFFERENTIAL EQUATIONS-1194 - 1 / General / First Exam
Question 15
Not yet answered
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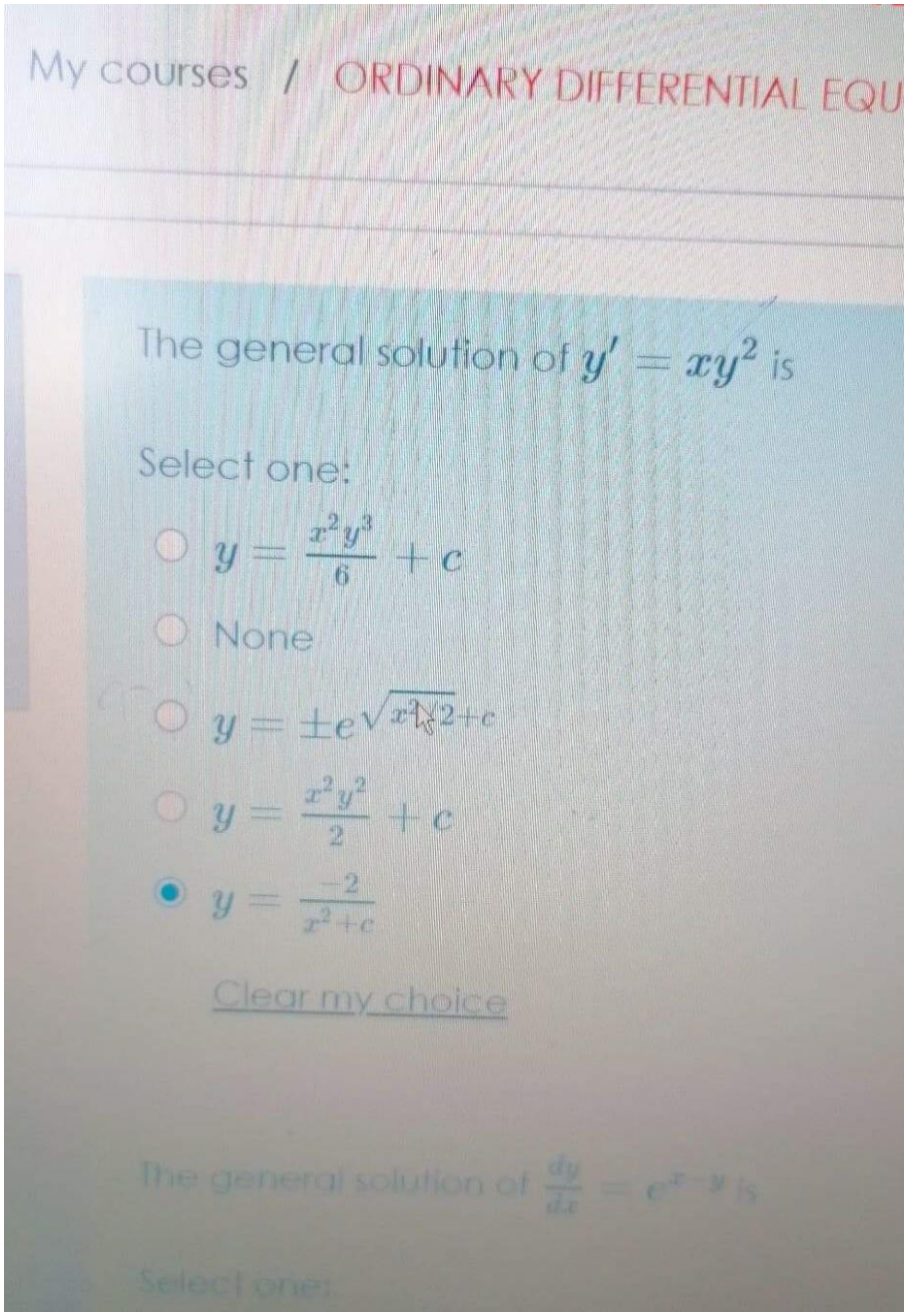
Flag question
The general solution of $y' + y = y^2$ is
Select one:
$y(t) = 1 + ce^t$
$y(t) = \frac{1}{1+ce^t}$
$y(t) = \frac{1}{1+ce^{-t}}$
None
$y(t) = \frac{1}{1-ce^t}$


My courses / ORDINARY DIFFERENTIAL EQU
The general solution of $y' = xy^2$ is
Select one:
$y = \frac{x^2y^3}{6} + c$
None
$y = \pm e^{\sqrt{x^2+2}+c}$
$y = \frac{x^2y^2}{2} + c$
$y = \frac{-2}{x^2+c}$
Clear my choice
The general solution of $\frac{dy}{dx} = e^{x-y}$ is
Select one:

The solution of the differential equation $(3x^2 + 2xy^2)dx + 2x^2ydy = 0$ satisfies the implicit equation

Select one:

- $x^2 + x^3y^2 = c$
- $x^2 + y^2 = c$
- None
- $x + x^2y^2 = c$
- $x^3 + x^2y^2 = c$

Question **12**

Not yet answered

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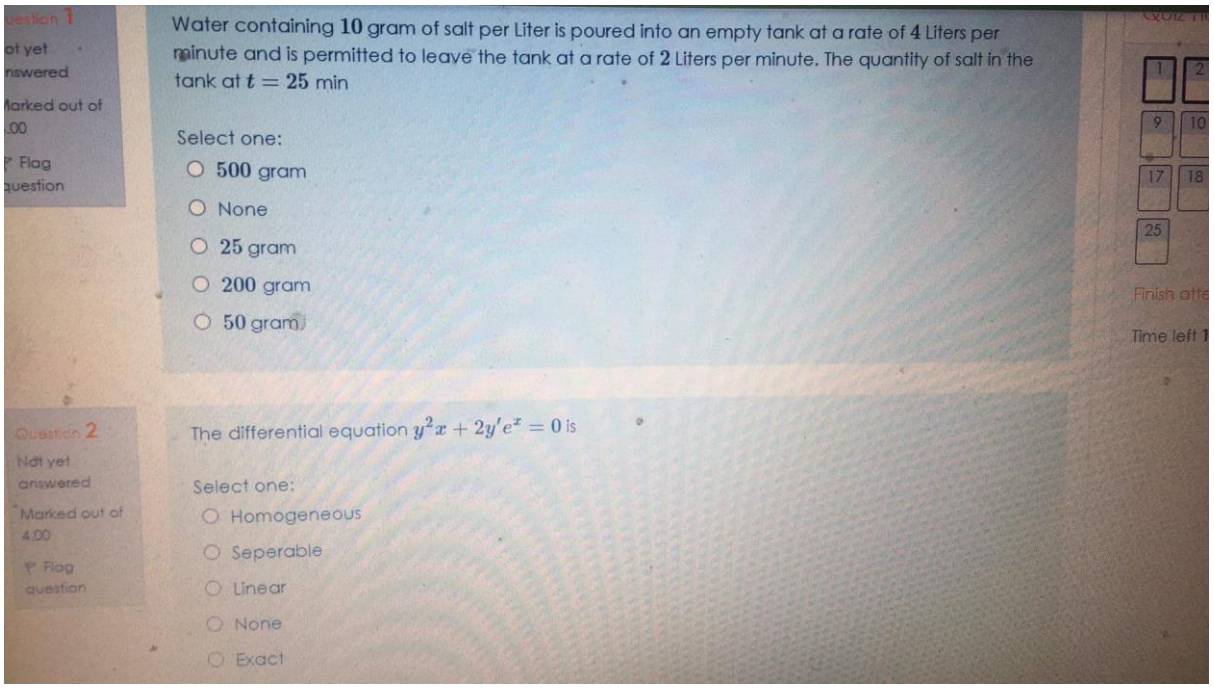
Flag question

The solution of the initial value problem $y'y'' = t, y'(1) = 1, y(1) = \frac{1}{2}$ is

Select one:

- $y(t) = \frac{t^2}{2}$
- $y(t) = t$
- $y(t) = t - \frac{1}{2}$
- None
- $y(t) = t + \frac{1}{2}$



Question 1

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Water containing **10** gram of salt per Liter is poured into an empty tank at a rate of **4** Liters per minute and is permitted to leave the tank at a rate of **2** Liters per minute. The quantity of salt in the tank at $t = 25$ min

Select one:

- **500** gram
- None
- **25** gram
- **200** gram
- **50** gram

Question 2

Ndt yet
answered

Marked out of
4.00

Flag
question

The differential equation $y^2x + 2y'e^x = 0$ is

Select one:

- Homogeneous
- Seperable
- Linear
- None
- Exact

Finish atte

Time left