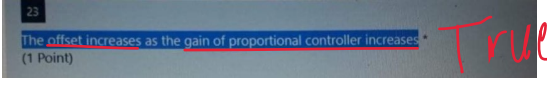


18

Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

True

True

19

The most suitable instrument for measuring temperature of steam in the heat exchanger *
(1 Point)

- Mercury thermometer
- Bimetalic thermometer
- Thermistor

8

Ethyl acetate reacts with sodium hydroxide in a reaction called saponification reaction, yields products ethyl alcohol and ..... : *
(1 Point)

- A. CH3COONa
- B. CH3COOH
- C. CH3COOC2H5
- D. (CH3CO)2O

9

Which of the following controllers has maximum offset? *
(1 Point)

- P-controller

28

Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)

- (●) True
- ( ) False

29

Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)

- ( ) True
- (●) False

16

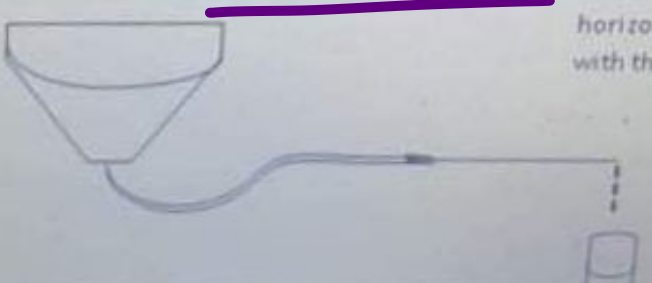
The rate constant of a chemical reaction increses by incresing the *
(1 Point)

- Pressure
- Time
- Concentration of reactants
- Temperature

17

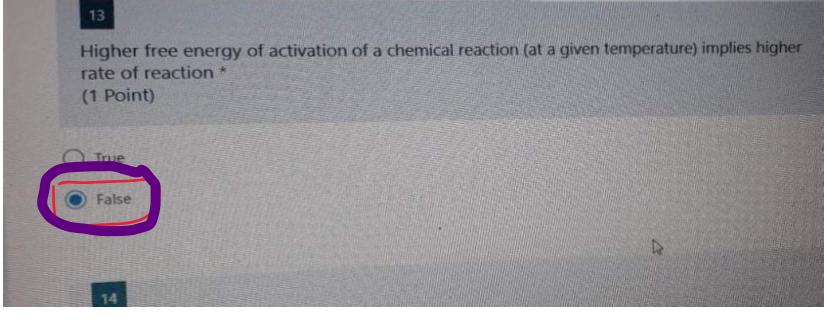
The following experimental setup in Hydraulic Analog experiment was for the *
(1 Point)

n < 1



horizontal capillary si
with the vertex of the

A

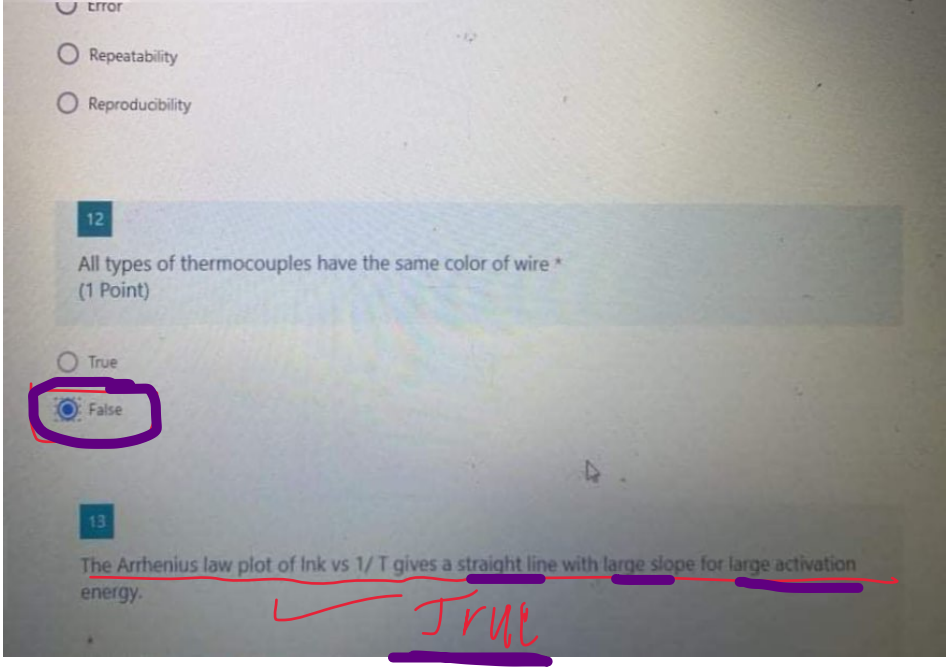

13

Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)

True

False

14



35 V

Can not be found

5

In the law of intermediate metal any metal can be used without any condition *
(1 Point)

True

False

6

The offset introduced by proportional controller with gain Kc in response of first order system can be reduced by *
(1 Point)

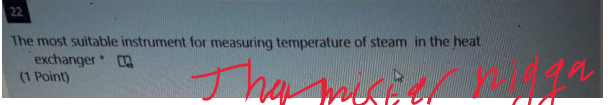
20

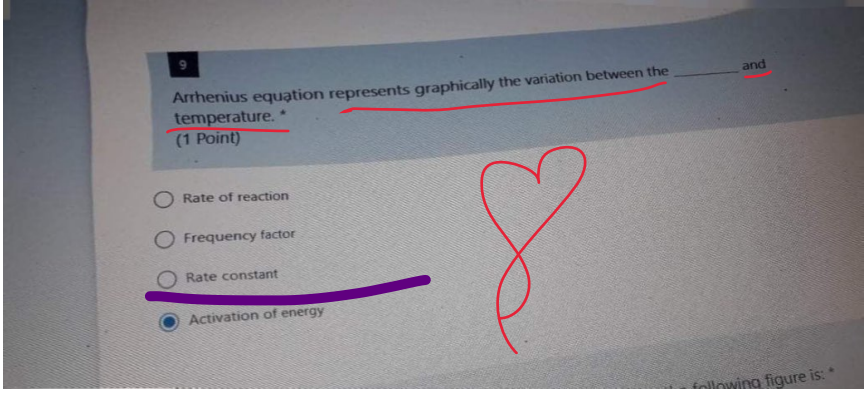
Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature *
(1 Point)

- Increase of pressure
- Increase of thermal conductivity
- Volumetric expansion
- All of the above

21

The following experimental setup in Hydraulic Analog experiment was for the _____





9

Which of the following controllers has maximum offset? *
(1 Point)

- P-controller
- PI-controller
- PD-controller
- PID-controller

10

True

False

6

The offset introduced by proportional controller with gain Kc in response of first
can be reduced by *
(1 Point)

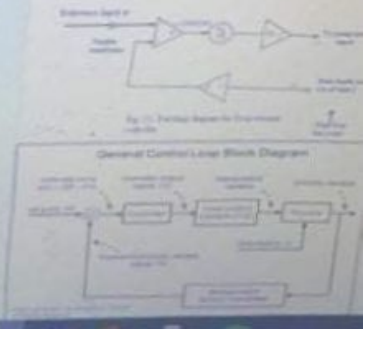
Reducing value of Kc

Introducing integral control

Introducing derivative control

None of the above

7



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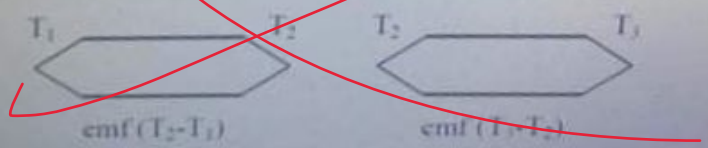
3

From Arrhenius law, a plot of loge K versus 1/T gives a straight line wi
unit of E/R is *
(1 Point)

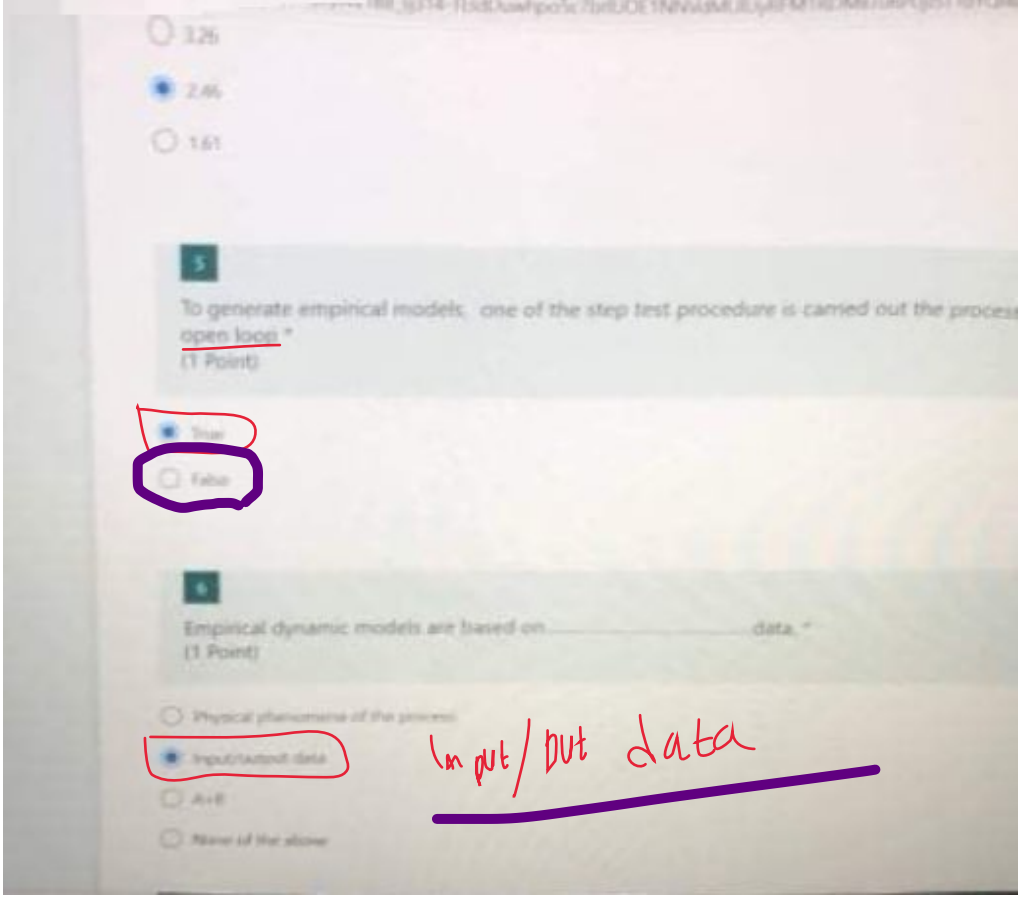
- kcal
- kcal/K
- K
- kcal.K

4

For the following setting : the emf (T3-T1)=180 V and emf (T2-T1)=145 V ,th
can be found to be: *
(1 Point)



- 180 V
- 325 V
- 35 V



25

In level control experiment, Pump coefficient = (Vol.Flowrate)/Applied vo
(1 Point)

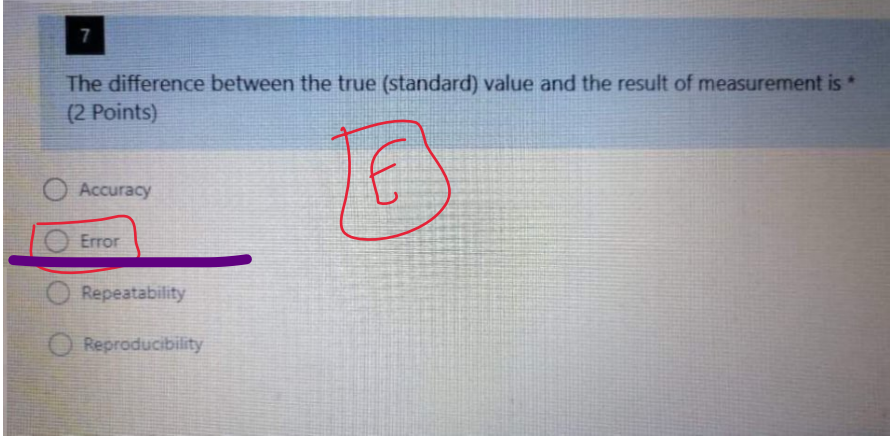
- True
- False

26

Empirical dynamic models are based on.....data. *
(1 Point)

- Physical phenomena of the process
- Input/output data
- A+B
- None of the above

27



6

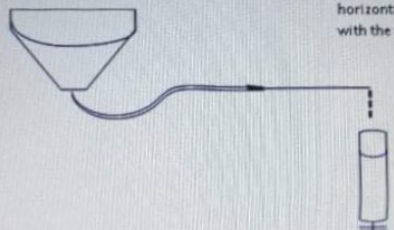
Inserting any type of conducting wire into thermocouple circuit has no effect on the output a
long as both ends of the wire are at the same temperature. *
(1 Point)

True

The following experimental setup in Hydraulic Analog experiment was for the _____

(2 Points)

A



n<1

n>1

- First order reversible reaction
- First order series reaction
- Reaction order n<1

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2

To generate empirical models, one of the step test procedure is carried out the process with closed loop *
(1 Point)

open

True

False

3

The offset increases as the gain of proportional controller increases *
(1 Point)

False

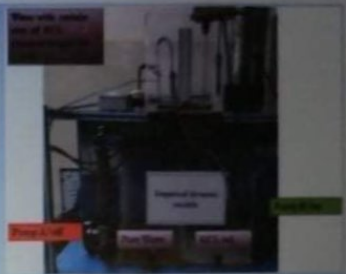
18

Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)

True

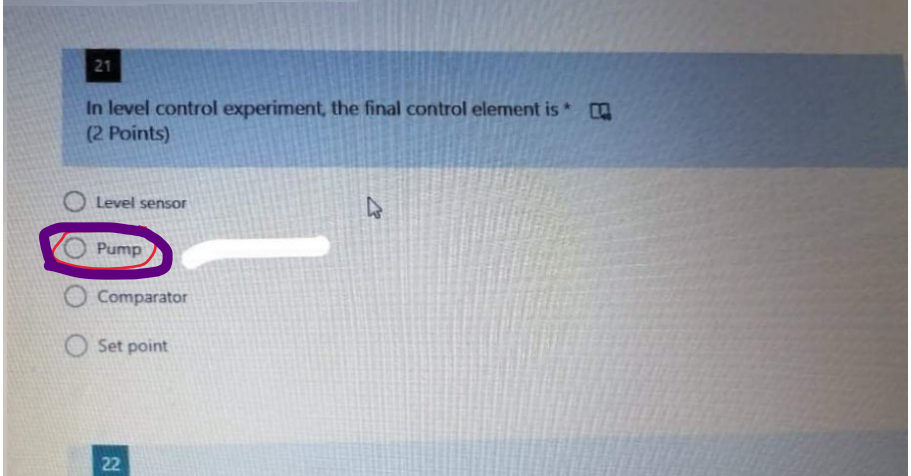
False

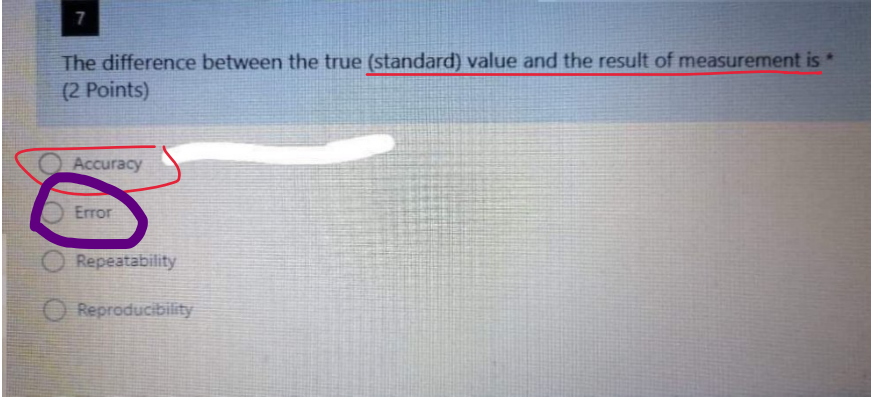
13



The following setting in Empi[illegible]mic models experiment was for: *
(1 Point)

- Impulse response
- Step up response
- Step down response
- Step up + step down response





The reaction between sodium hydroxide and ethyl acetate is first order.

Graphically , if we plot ln (C_{A0} / C_A) v/s t , we will get a straight line through the origin indicating that the reaction is first order in sodium hydroxide.

ln (C_{A0} / C_A)	0.699	1.114	1.211	1.350	1.60
t	1	5	7	10	15

For the first order reaction , we have

$-\ln (C_A / C_{A0}) = k . t$

$C_{A0} = 0.03$ (mol / lit)

1] $C_A = 0.0149$ at t = 1 min

$k = - \ln (0.0149 / 0.03) / 1$

$= 0.699\ min^{-1}$

2] $C_A = 0.00984$ at t=5 min

$k = - \ln (0.00984 / 0.03) / 5$

$= 0.222\ min^{-1}$

3] $C_A = 0.00892$ at t= 7 min

$k = - \ln (0.00892 / 0.03) / 7$

k = -ln (0.00777 / 0.03) / 10

= 0.135 min^{-1}

5] C_A = 0.00605 at t = 15 min

k = - ln (0.00605 / 0.03) / 15

= 0.106 min^{-1}

6] C_A = 0.00493 at t = 20 min

k = -ln (0.00493 / 0.03) / 20

= 0.09 min^{-1}

7] C_A = 0.00405 at t= 25 min

k = - ln (0.00405 / 0.03) / 25

= 0.08 min^{-1}

The constancy of the rate mconstant k indicates that the the decomposition of sodium hydroxide is a first order reaction

Average value of rate constant , k

k = (0.6999 + 0.222 + 0.173 + 0.135 + 0.106 + 0.09 + 0.08) / 7

= 1.5059 /7

= 0.215 min^{-1}

Hence , rate constant of the reaction is 0.215 min^{-1}

2] C_A = 0.00984 at t=5 min

k = - ln (0.00984 / 0.03) / 5

= 0.222 min^{-1}

3] C_A = 0.00892 at t= 7 min

k = - ln (0.00892 / 0.03) / 7

= 0.173 min^{-1}

4] CA = 0.00777 at t = 10 min

k = -ln (0.00777 / 0.03) / 10

= 0.135 min^{-1}

5] C_A = 0.00605 at t = 15 min

k = - ln (0.00605 / 0.03) / 15

= 0.106 min^{-1}

6] C_A = 0.00493 at t = 20 min

k = -ln (0.00493 / 0.03) / 20

= 0.09 min^{-1}

7] C_A = 0.00405 at t= 25 min

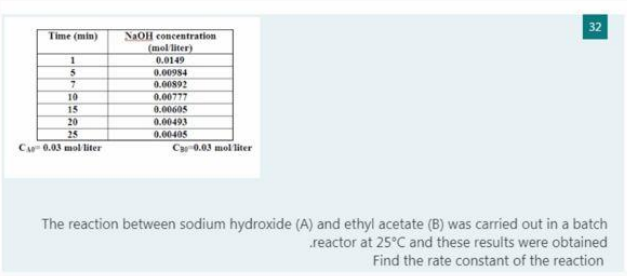
k = - ln (0.00405 / 0.03) / 25

= 0.08 min^{-1}

The constancy of the rate mconstant k indicates that the the decomposition of sodium hydroxide is a first order reaction

Average value of rate constant, k

Question: 32 Time (min) 1 5 7 10 15 20 25 CA0= 0,03 mol/liter NaOH concentration (molliter) 0.0149...



Time (min)	NaOH concentration (mol/liter)
1	0.0149
5	0.00984
7	0.00892
10	0.00777
15	0.00605
20	0.00493
25	0.00405

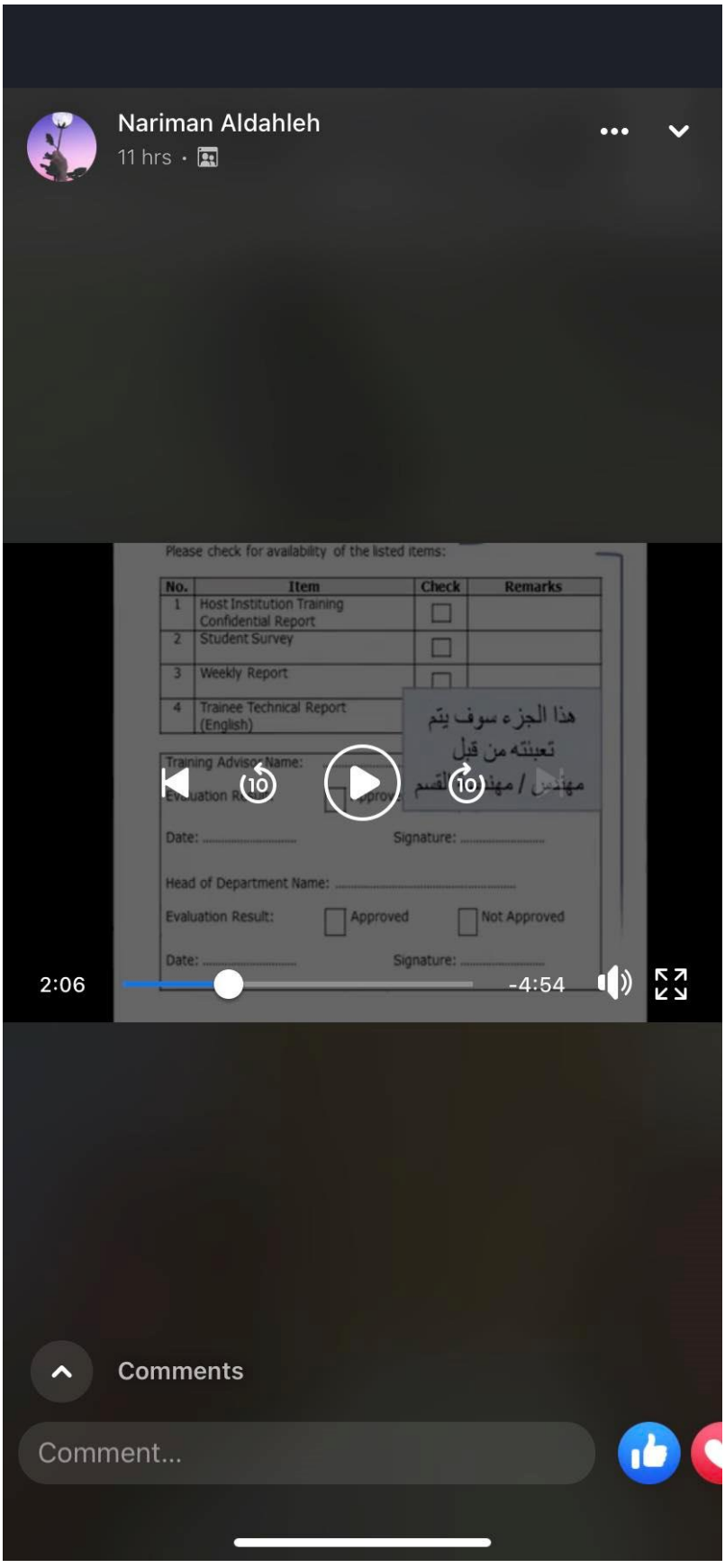
C_{A0}= 0.03 mol/liter C_{B0}=0.03 mol/liter

32

The reaction between sodium hydroxide (A) and ethyl acetate (B) was carried out in a batch .reactor at 25°C and these results were obtained
Find the rate constant of the reaction

Show transcribed image text

Here's the best way to solve it.


Nariman Aldahleh
11 hrs
Please check for availability of the listed items:
No.
Item
Check
Remarks
1
Host Institution Training Confidential Report
2
Student Survey
3
Weekly Report
4
Trainee Technical Report (English)
هذا الجزء سوف يتم تعبئته من قبل مهندس / مهندسة القسم
Training Advisor Name:
Date:
Signature:
Head of Department Name:
Evaluation Result:
Approved
Not Approved
Date:
Signature:
2:06
-4:54
Comments
Comment...

a. Steady State Erro

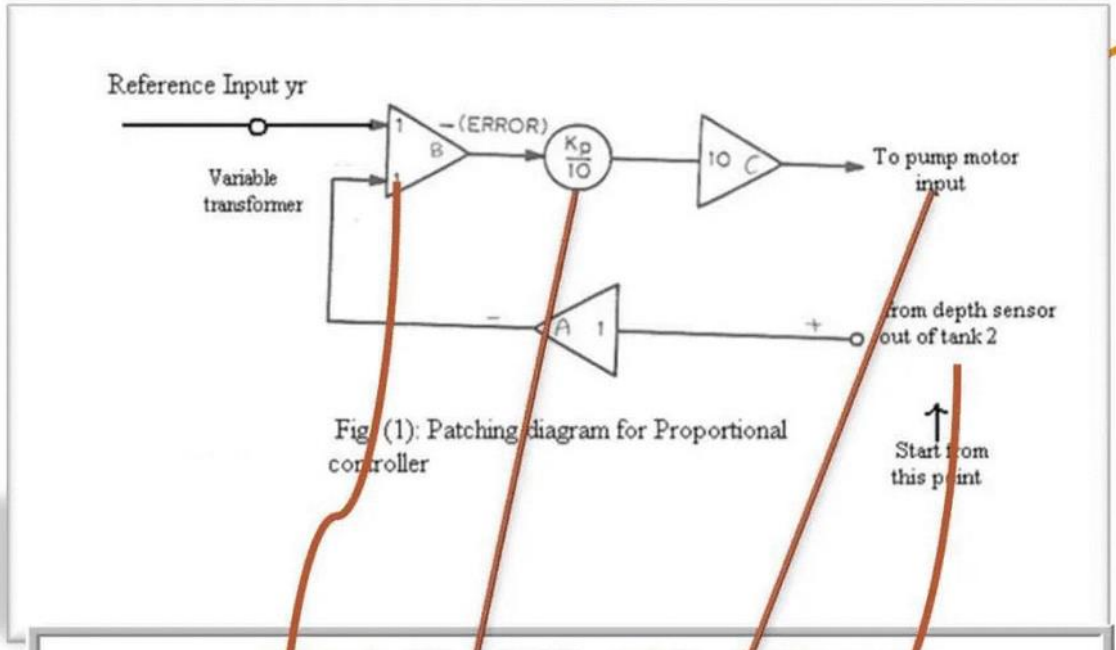
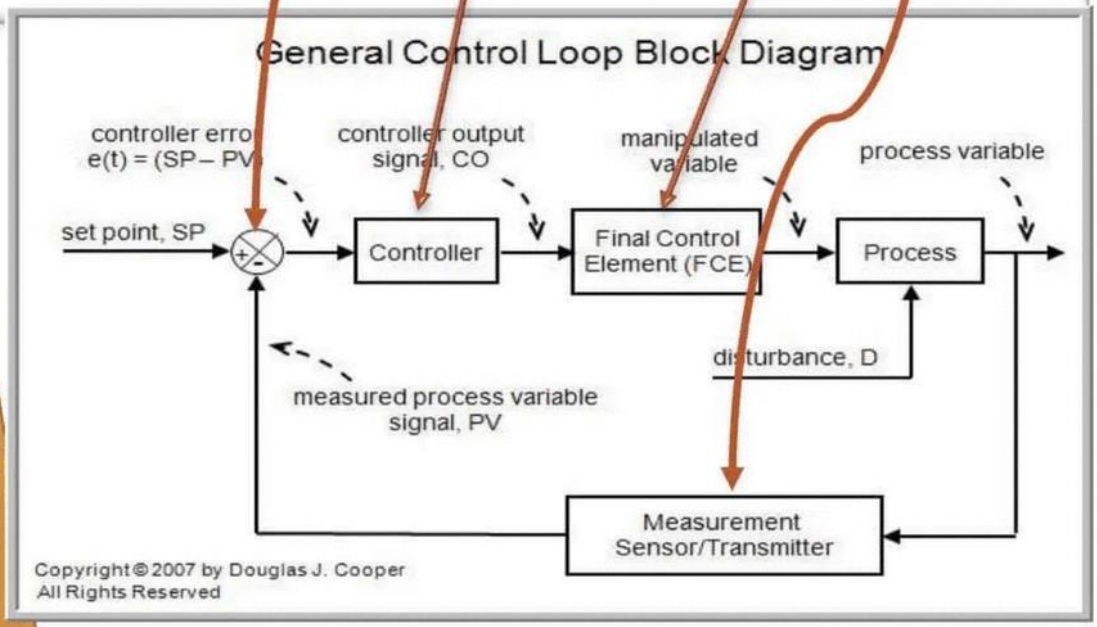
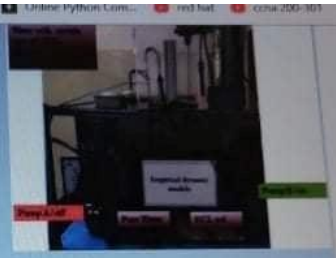


Fig. (1): Patching diagram for Proportional controller



13



The following setting in Empirical dynamic models experiment was for: *
(1 Point)

- Impulse response
- Step up response
- Step down response
- Step up + step down response

- 35 V
- Can not be found

5

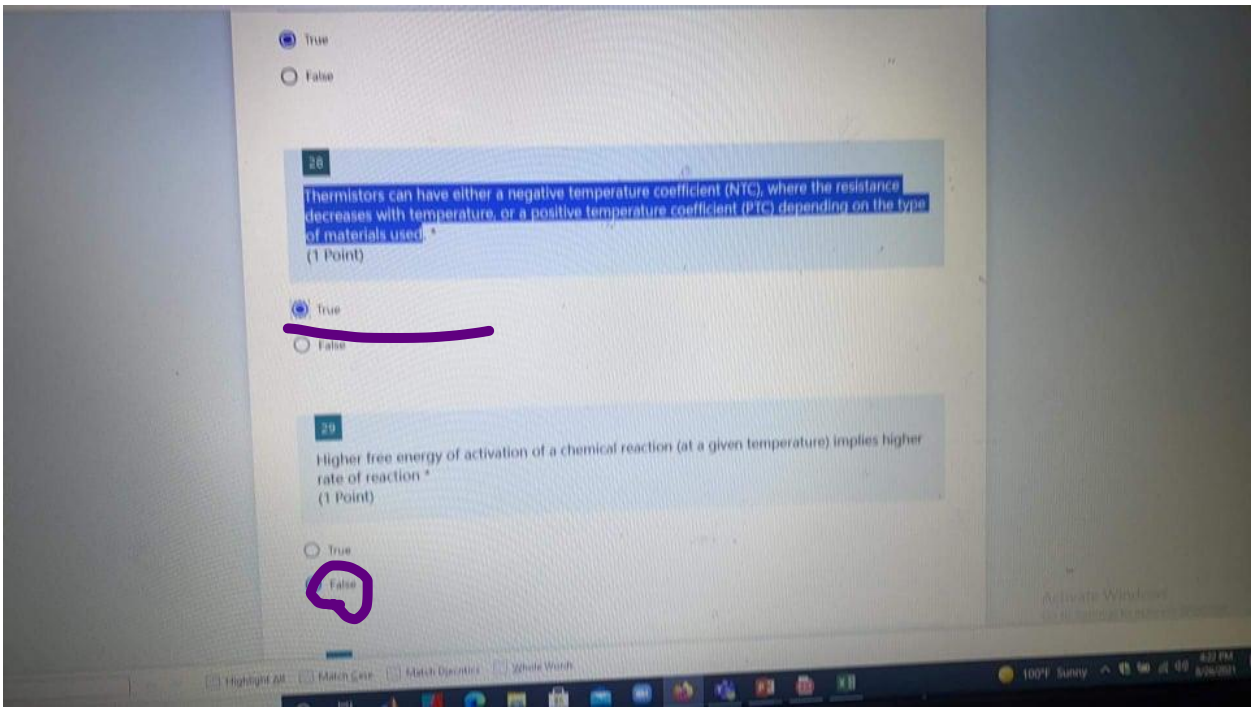
In the law of intermediate metal any metal can be used without any condition *
(1 Point)

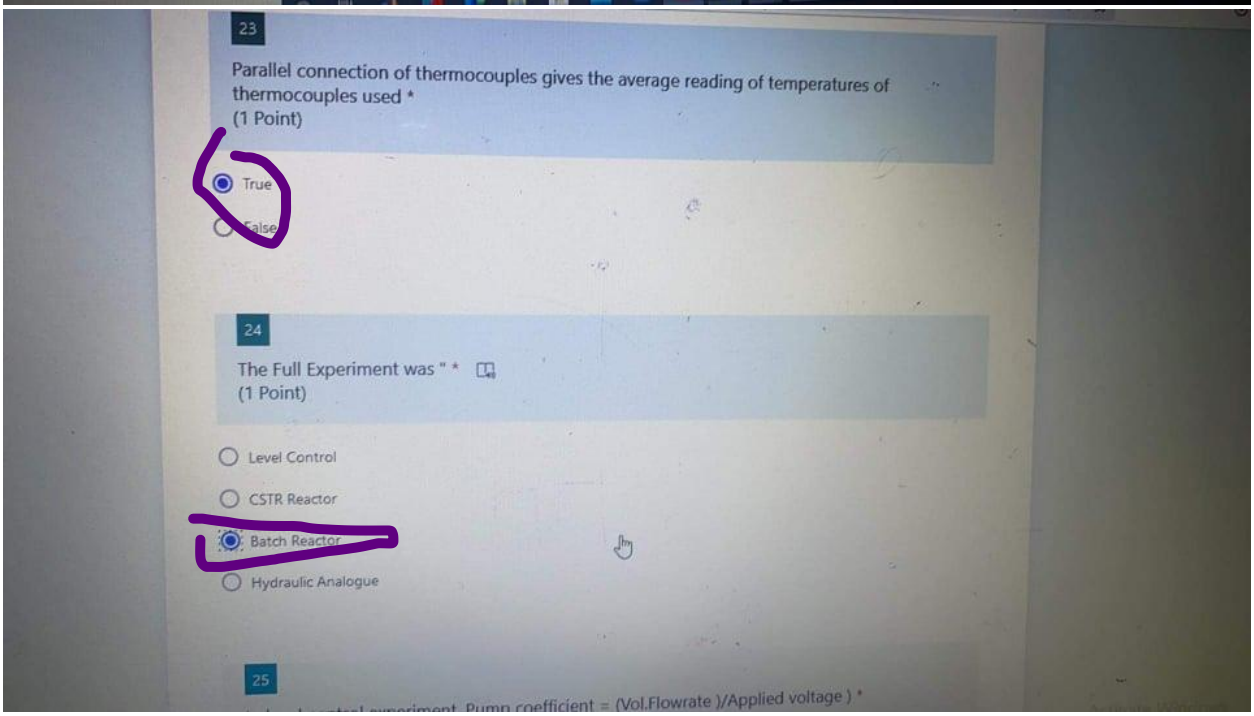
- True
- False

6

The offset introduced by proportional controller with gain Kc in response of first order system can be reduced by *
(1 Point)

- Reducing value of Kc
- Introducing integral control


True
False
28
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)
True
False
29
Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)
True
False


23
Parallel connection of thermocouples gives the average reading of temperatures of thermocouples used *
(1 Point)
True
False
24
The Full Experiment was " *
(1 Point)
Level Control
CSTR Reactor
Batch Reactor
Hydraulic Analogue
25

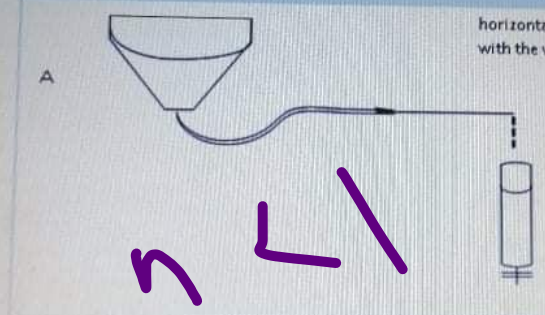
6

Inserting any type of conducting wire into thermocouple circuit has no effect on the output a long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

7

The following experimental setup in Hydraulic Analog experiment was for the _____ *
(2 Points)



- First order reversible reaction
- First order series reaction
- Reaction order n<1
- Reaction order n>1

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2

To generate empirical models, one of the step test procedure is carried out the process with closed loop *

(1 Point)

- True
- False

3

The offset increases as the gain of proportional controller increases *

(1 Point)

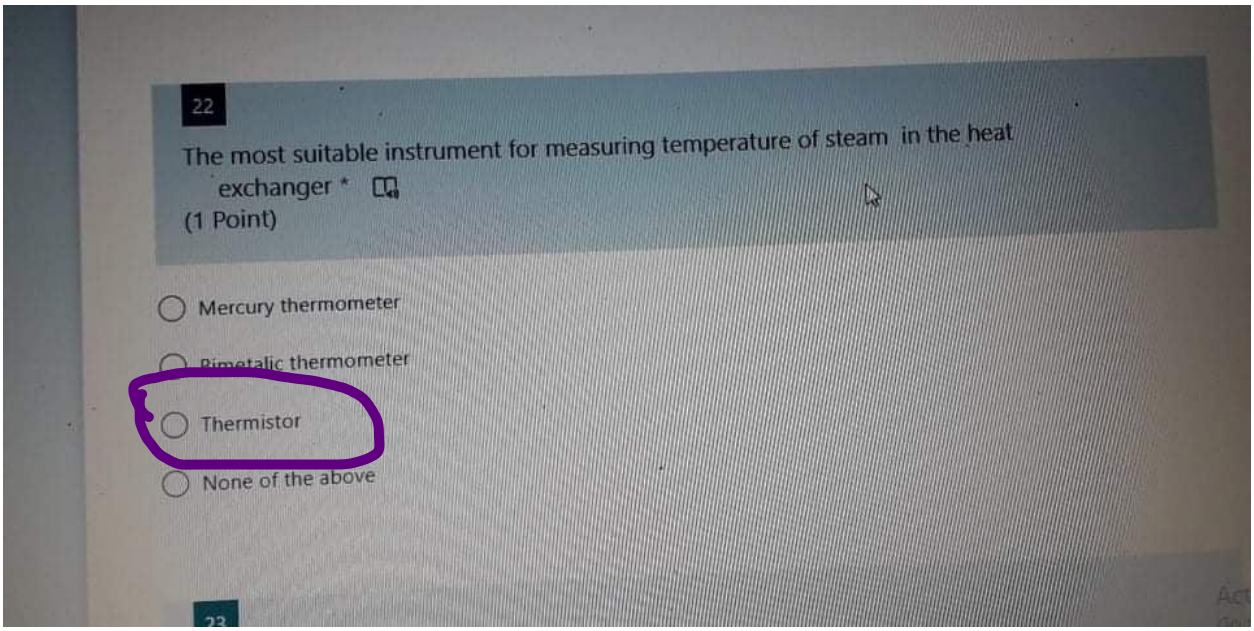
11

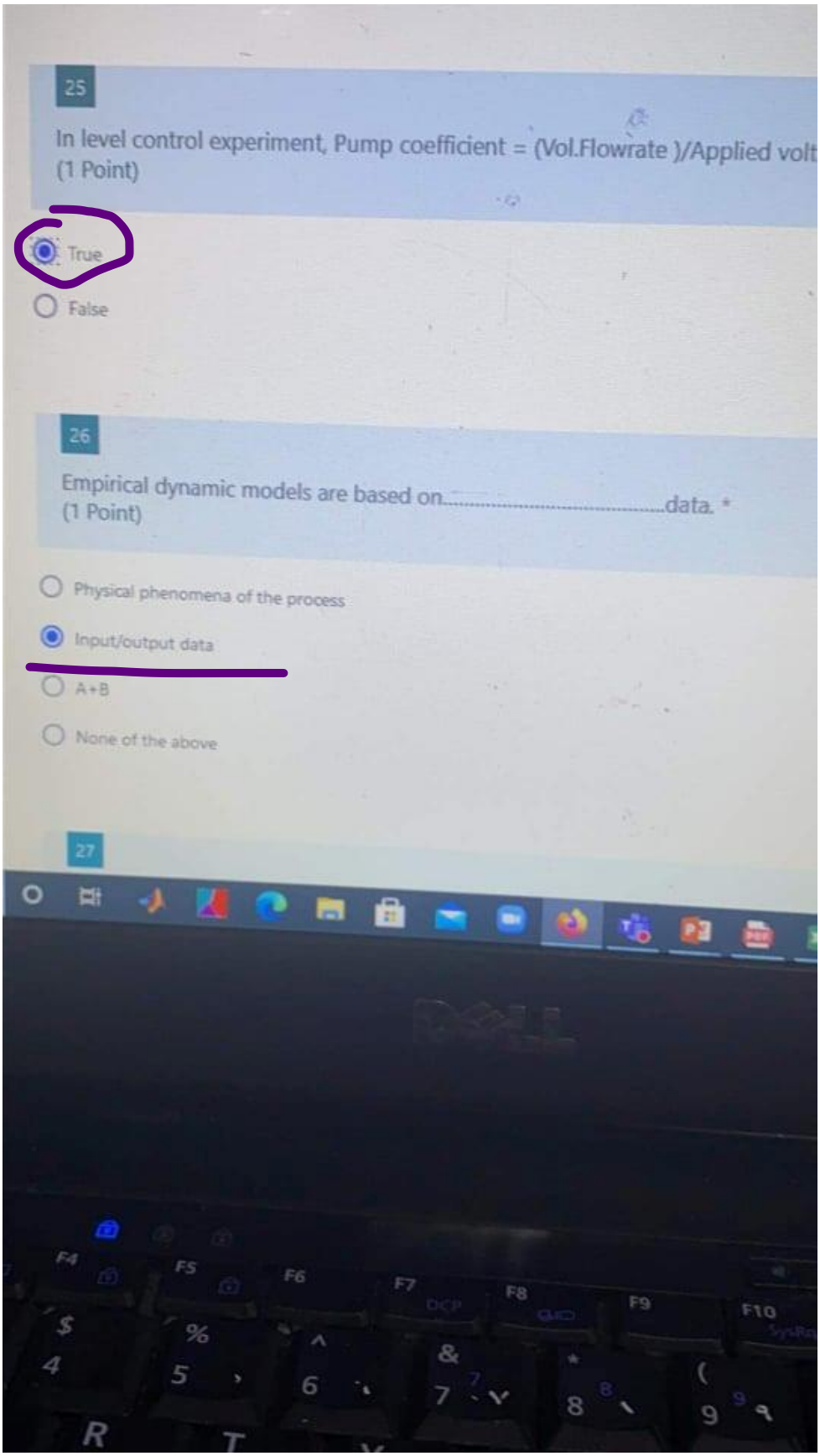
The calibration data of a thermocouple are given below.The hot junction of the thermocouple is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocouple? *

(2 Points)

Hot junction temperature (°C)	0	20	40	60	80	100
Thermo emf (mv)	0.00	0.80	1.61	2.43	3.26	4.10

- 4.06
- 3.26
- 2.46
- 1.61


22
The most suitable instrument for measuring temperature of steam in the heat exchanger *
(1 Point)
Mercury thermometer
Bimetalic thermometer
Thermistor
None of the above
23


25
In level control experiment, Pump coefficient = (Vol.Flowrate)/Applied volt
(1 Point)
True
False
26
Empirical dynamic models are based on.....data. *
(1 Point)
Physical phenomena of the process
Input/output data
A+B
None of the above
27

A+B

None of the above

25

The Full Experiment was " *
(2 Points)

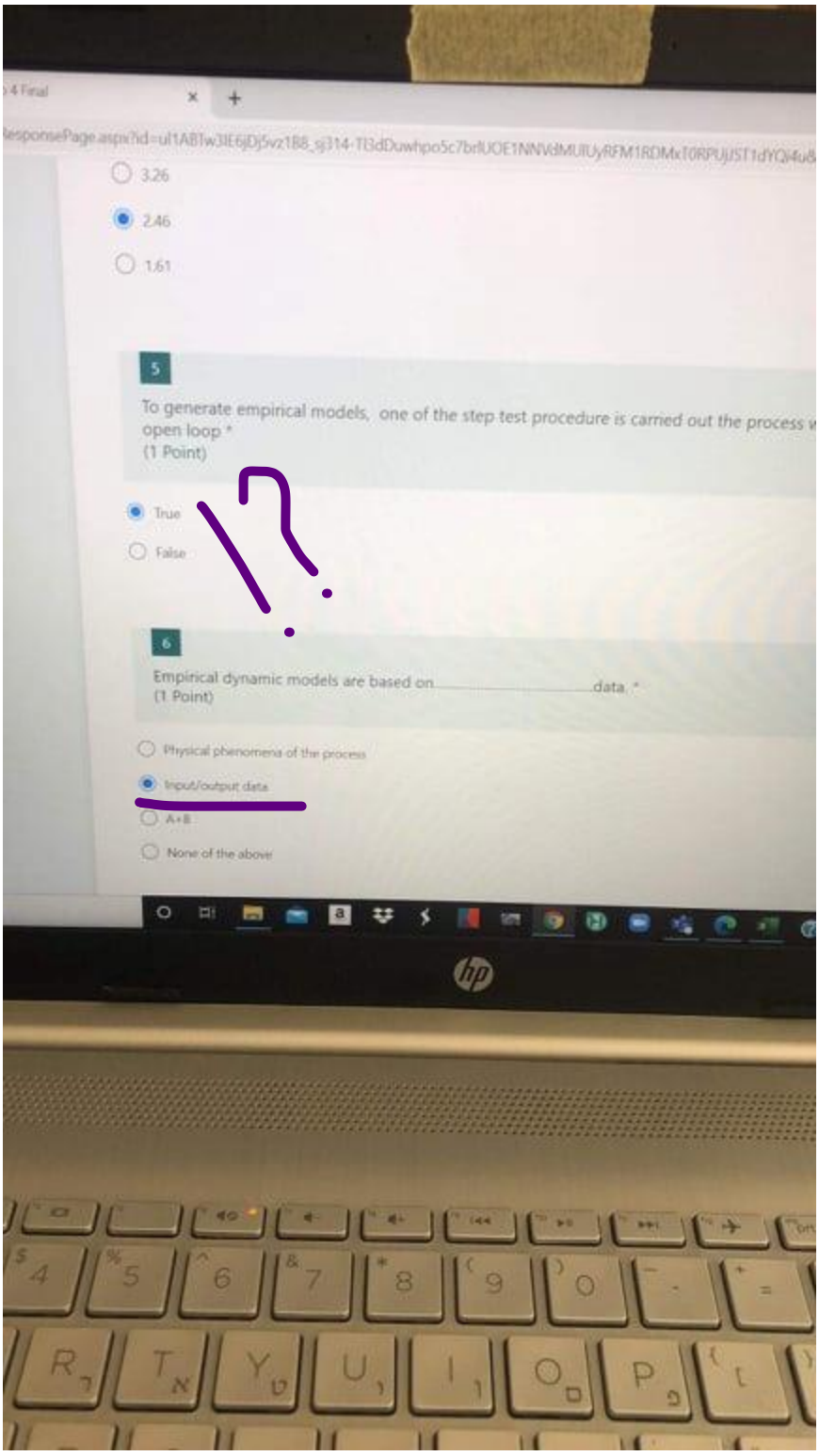
Level Control

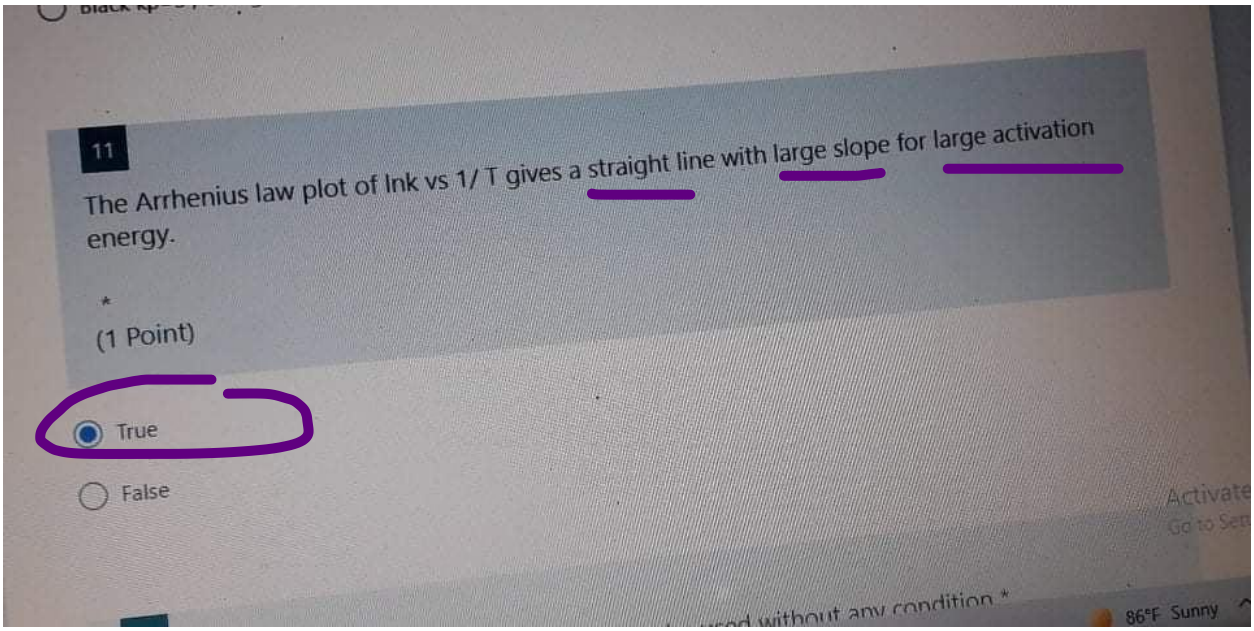
CSTR Reactor

Batch Reactor

Hydraulic Analogue

26


3.26
2.46
1.61
5
To generate empirical models, one of the step test procedure is carried out the process
open loop *
(1 Point)
True
False
6
Empirical dynamic models are based on data. *
(1 Point)
Physical phenomena of the process
Input/output data
A+B
None of the above


11
The Arrhenius law plot of lnk vs 1/ T gives a straight line with large slope for large activation energy.
*
(1 Point)
True
False
86°F Sunny

True

False

6

The offset introduced by proportional controller with gain Kc in response of first o
can be reduced by *
(1 Point)

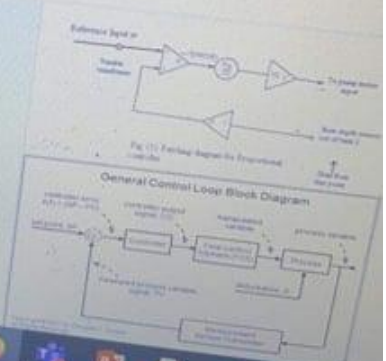
Reducing value of Kc

Introducing integral control

Introducing derivative control

None of the above

7



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16

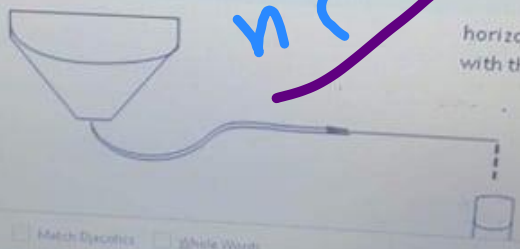
The rate constant of a chemical reaction increses by incresing the *
(1 Point)

- Pressure
- Time
- Concentration of reactants
- Temperature

17

The following experimental setup in Hydraulic Analog experiment was for the *
(1 Point)

A



horizontal capillary sh
with the vertex of the f

6

Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

11

The calibration data of a thermocouple are given below.The hot junction of the thermocouple is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocouple? *
(2 Points)

Hot junction temperature (°C)	0	20	40	60	80	100
Thermo emf (mv)	0.00	0.80	1.61	2.43	3.26	4.10

- 4.06
- 3.26
- 2.46
- 1.61

12

The rate constant of a chemical reaction increses by incresing the *
(2 Points)

11

The calibration data of a thermocouple are given below.The hot junction of the thermocouple is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocouple? *

(2 Points)

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Thermo emf (mv)	0.00	0.80	1.61	2.43	3.26	4.10

- 4.06
- 3.26
- 2.46
- 1.61

- Error
- Repeatability
- Reproducibility

12

All types of thermocouples have the same color of wire *

(1 Point)

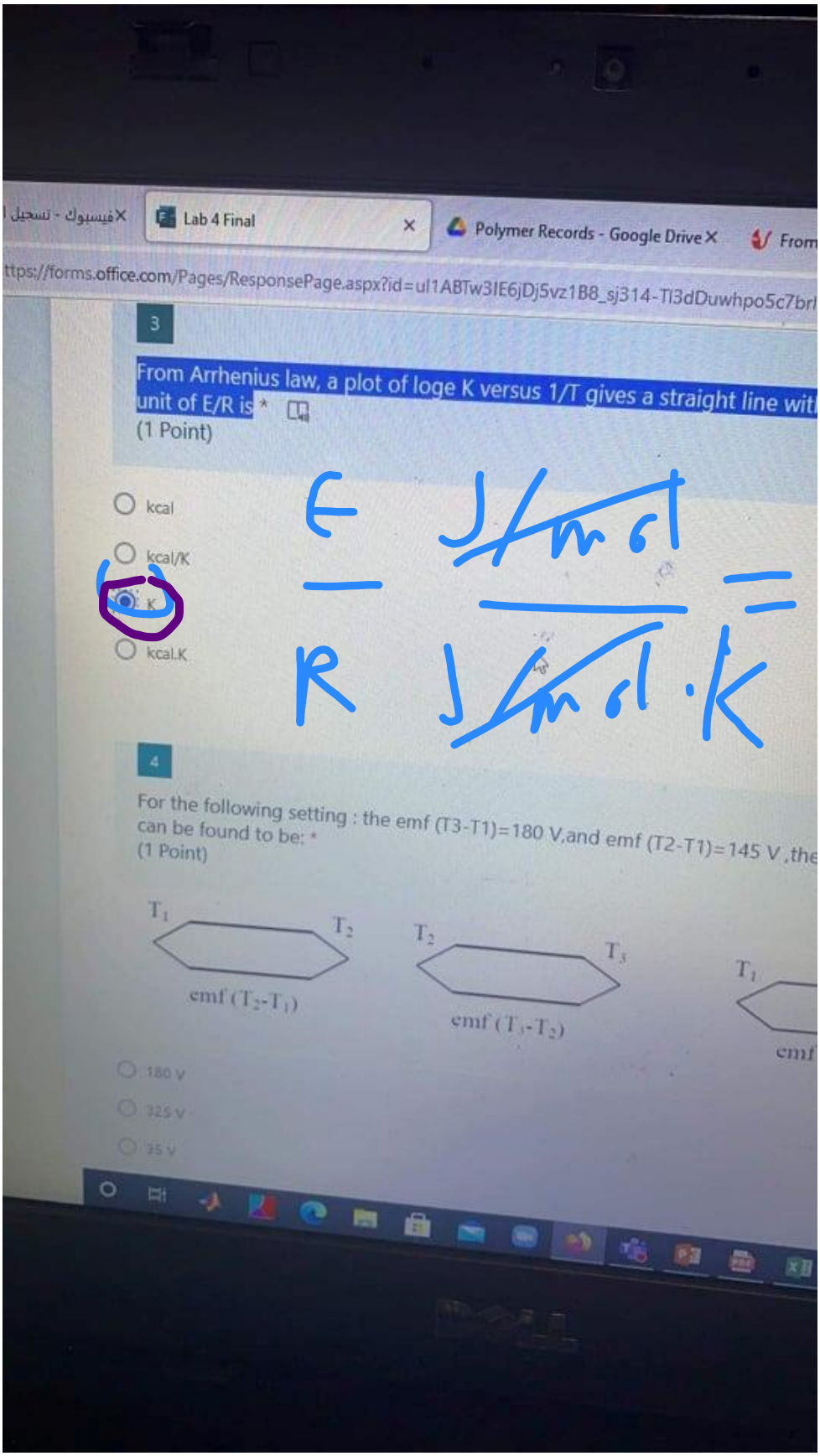
- True
- False

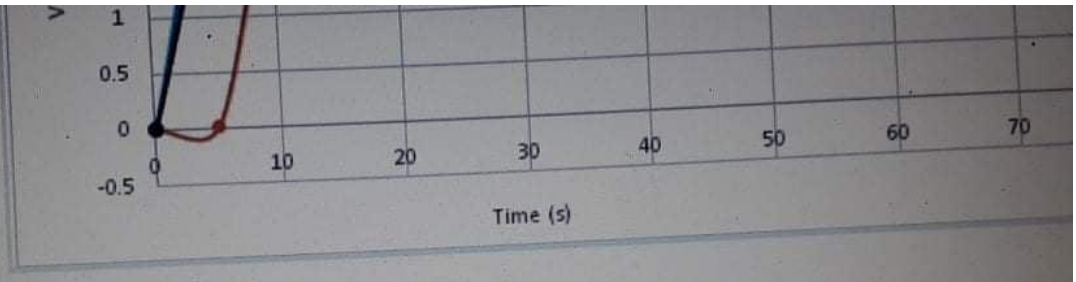
13

The Arrhenius law plot of lnk vs 1/ T gives a straight line with large slope for large activation energy.

*

100°F Sunny


Lab 4 Final
Polymer Records - Google Drive
https://forms.office.com/Pages/ResponsePage.aspx?id=ul1ABTw3IE6jDj5vz1B8_sj314-Tl3dDuwhpo5c7brl
3
From Arrhenius law, a plot of loge K versus 1/T gives a straight line wit
unit of E/R is *
(1 Point)
kcal
kcal/K
K
kcal.K
4
For the following setting : the emf (T3-T1)=180 V,and emf (T2-T1)=145 V ,the
can be found to be: *
(1 Point)
T1
T2
emf (T2-T1)
T2
T3
emf (T3-T2)
T1
emf
180 V
325 V
35 V



- ○ Black kp=10 , Orange kp=5 , Blue kp =3
- ◉ Black kp=3 , Orange kp=5 , Blue kp =10
- ○ Black kp=5 , Orange kp=3 , Blue kp =10
- ○ Black kp=5 , Orange kp=10 , Blue kp =3

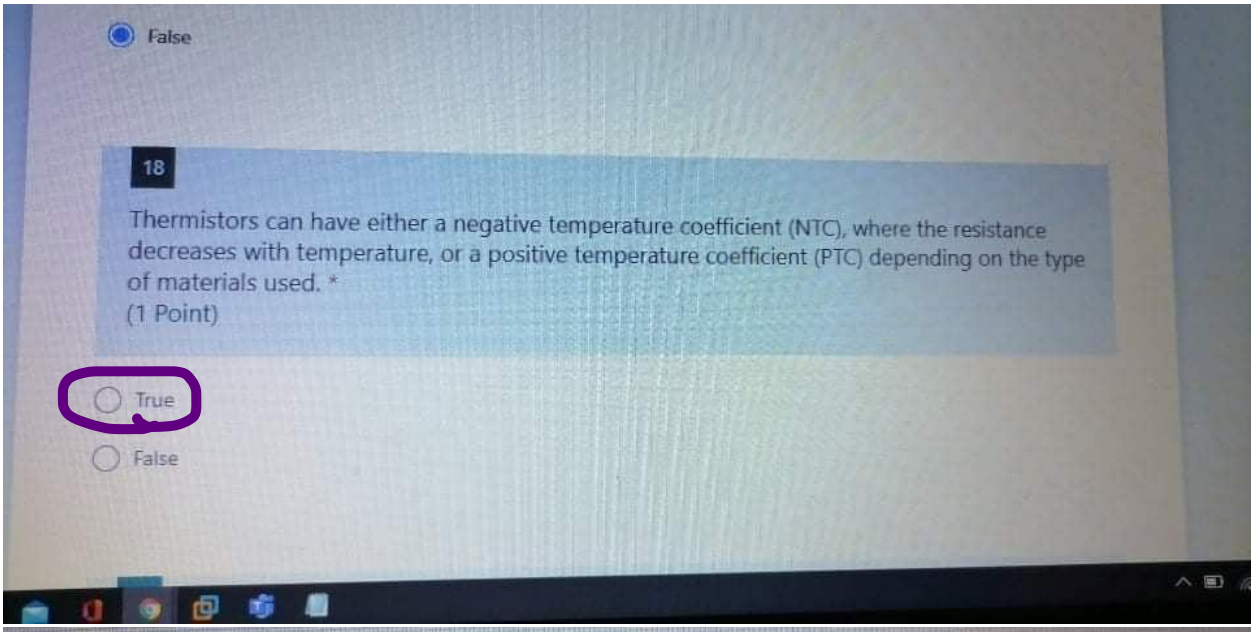
◉ False

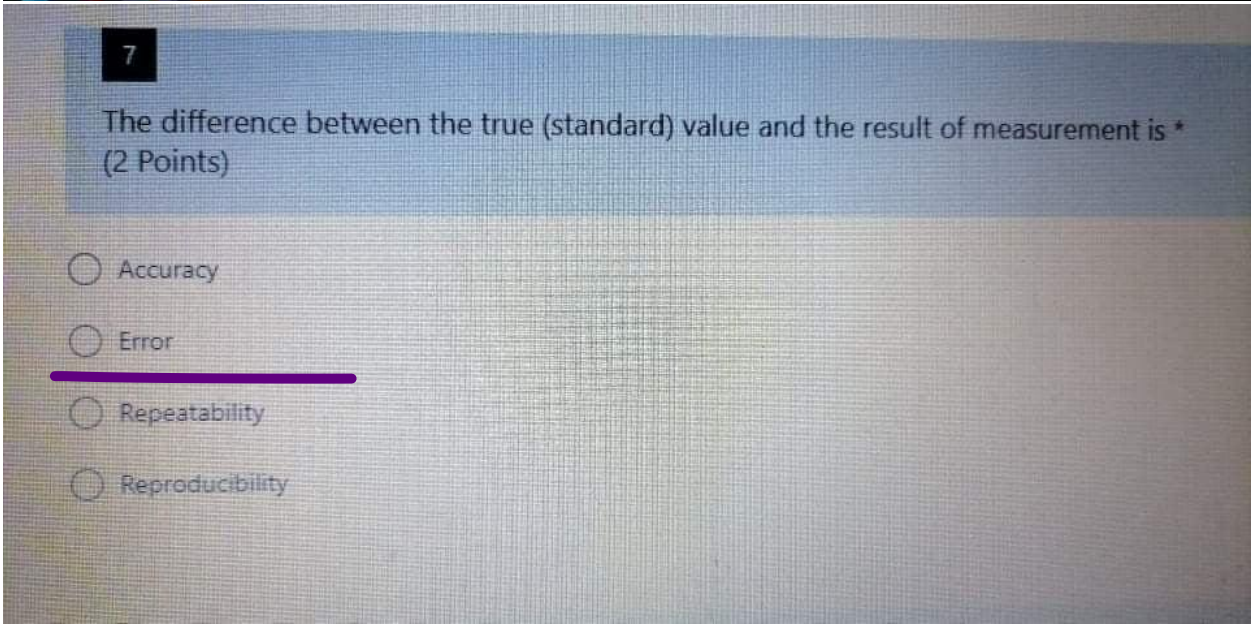
13

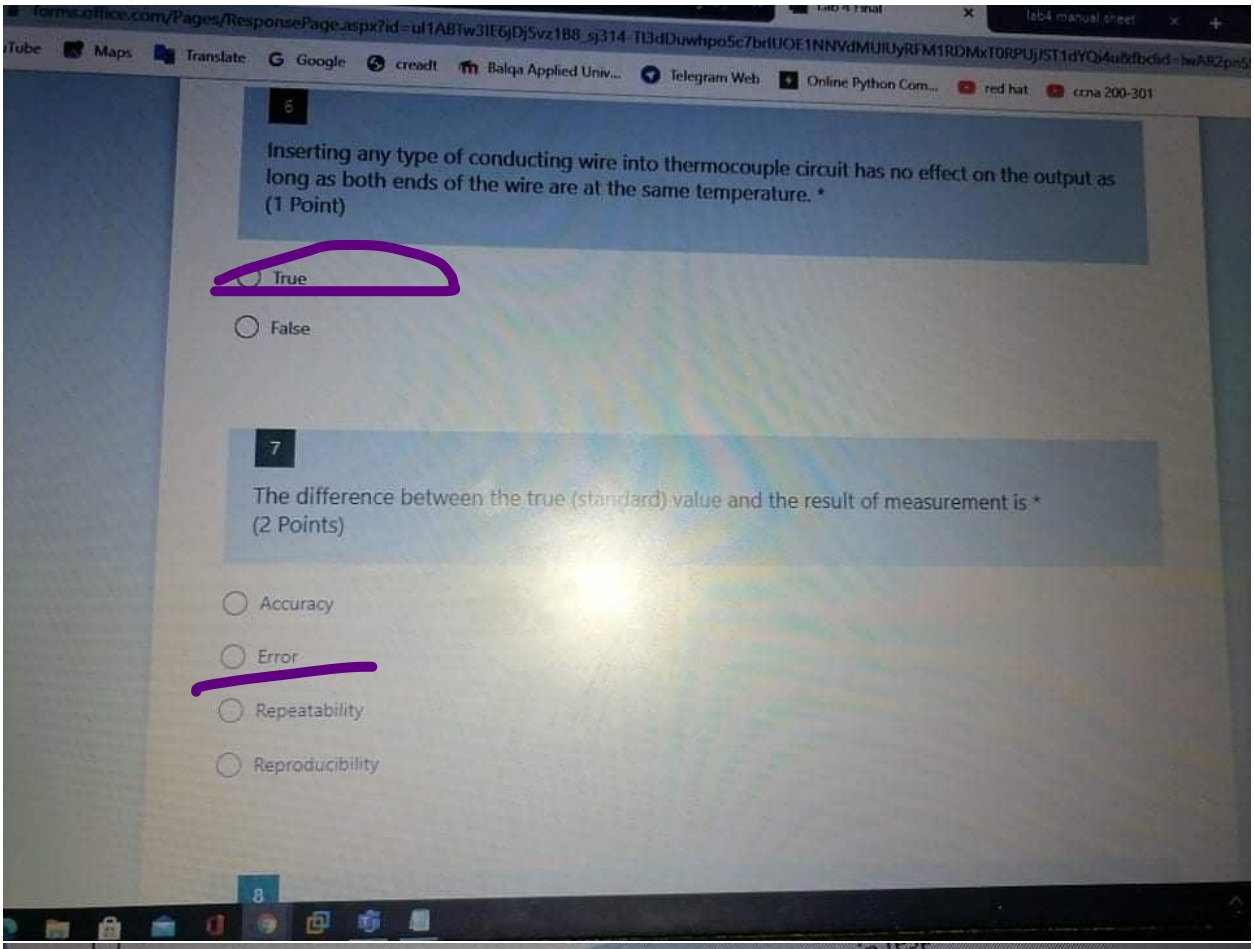
Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)

- ○ True
- ◉ False

14


False
18
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)
True
False


7
The difference between the true (standard) value and the result of measurement is *
(2 Points)
Accuracy
Error
Repeatability
Reproducibility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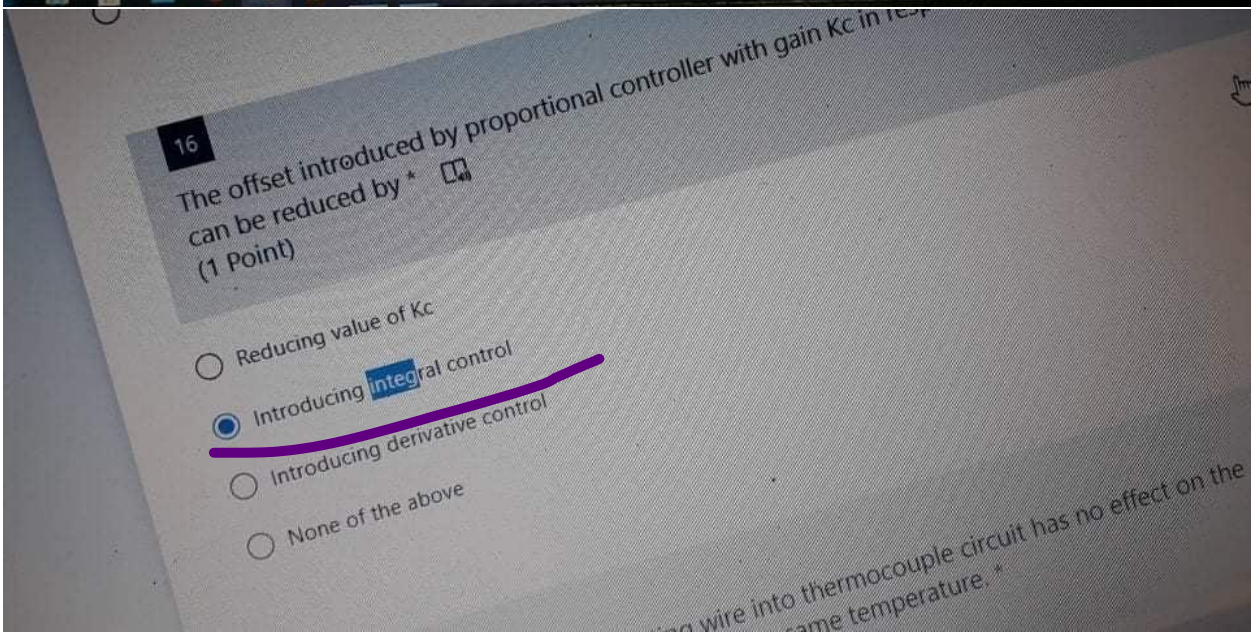
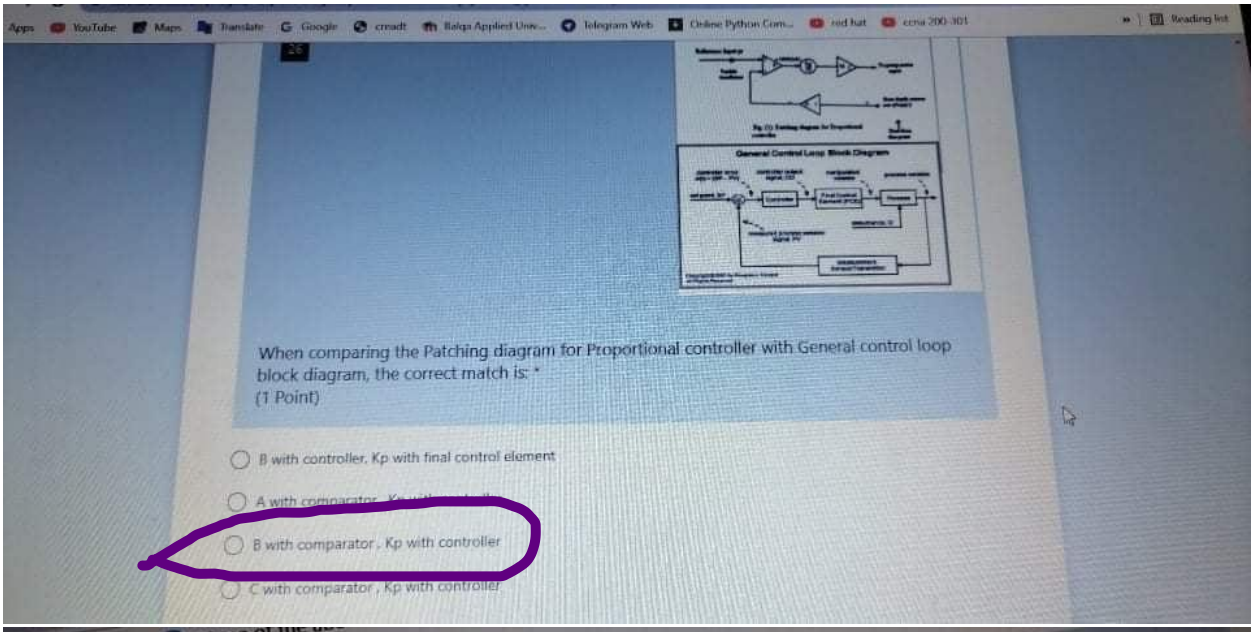
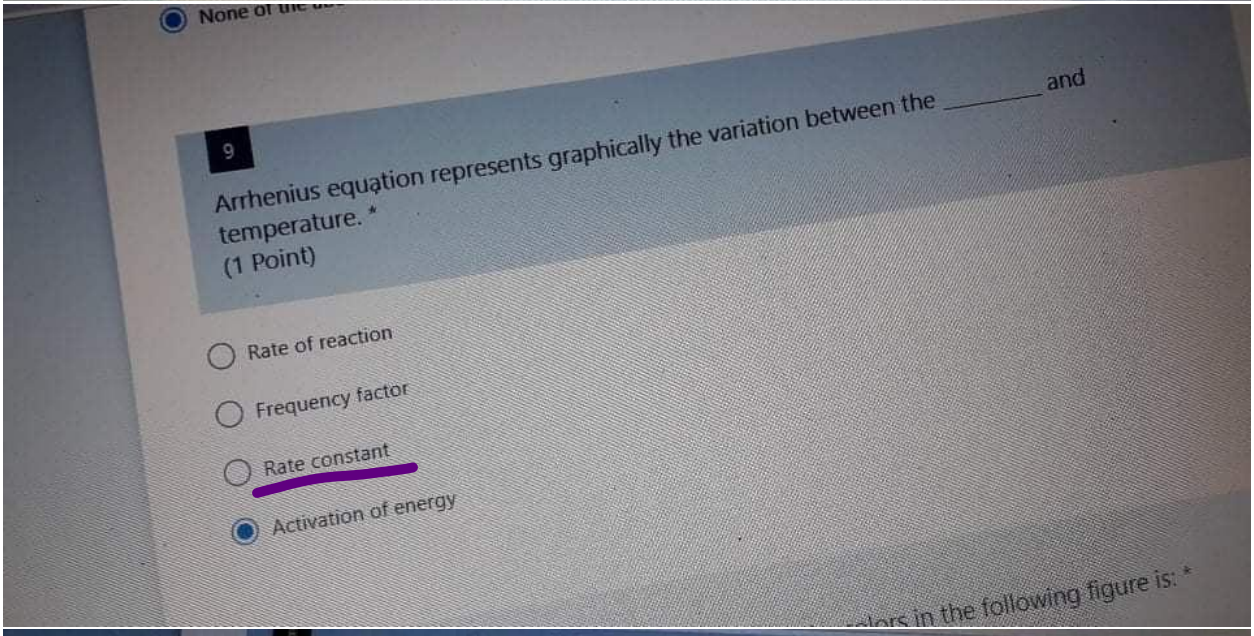
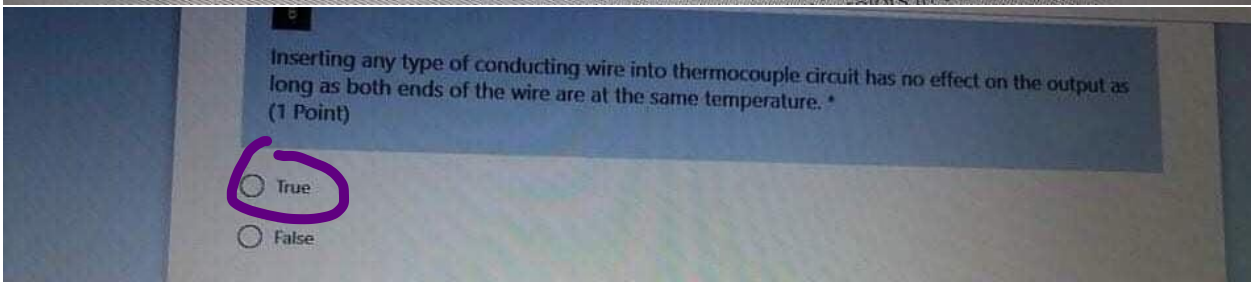
Online Python Com...
red hat
ccna 200-301
6
Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)
True
False
7
The difference between the true (standard) value and the result of measurement is *
(2 Points)
Accuracy
Error
Repeatability
Reproducibility
8


16
The offset introduced by proportional controller with gain Kc in
can be reduced by *
(1 Point)
Reducing value of Kc
Introducing integral control
Introducing derivative control
None of the above
wire into thermocouple circuit has no effect on the
ame temperature. *


When comparing the Patching diagram for Proportional controller with General control loop block diagram, the correct match is: *
(1 Point)
B with controller, Kp with final control element
A with comparator
B with comparator , Kp with controller
C with comparator , Kp with controller


None of the
9
Arrhenius equation represents graphically the variation between the _____ and temperature. *
(1 Point)
Rate of reaction
Frequency factor
Rate constant
Activation of energy


Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)
True
False

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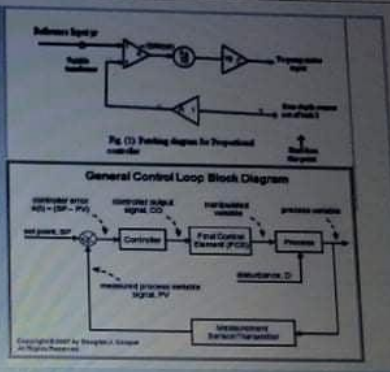
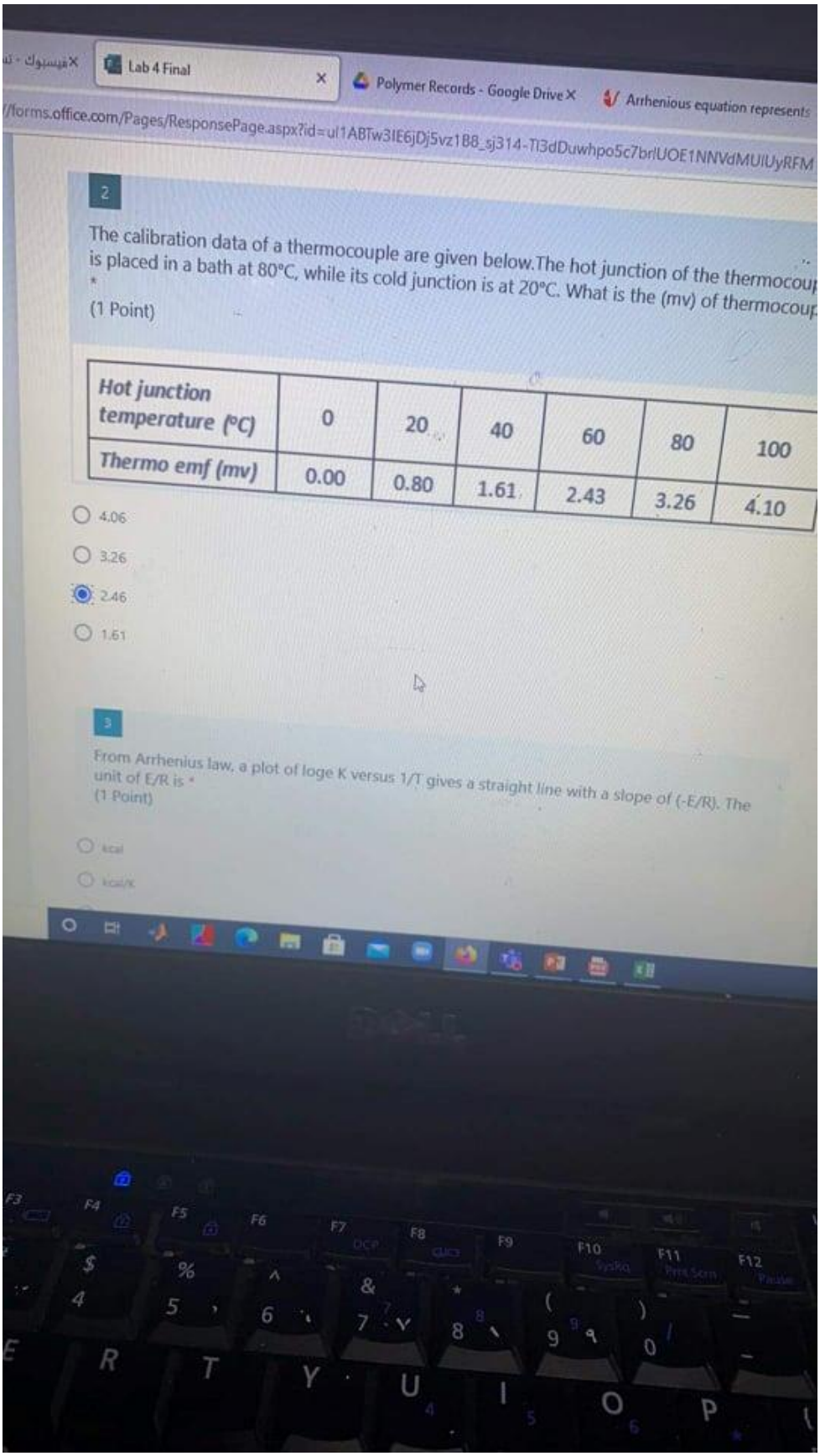
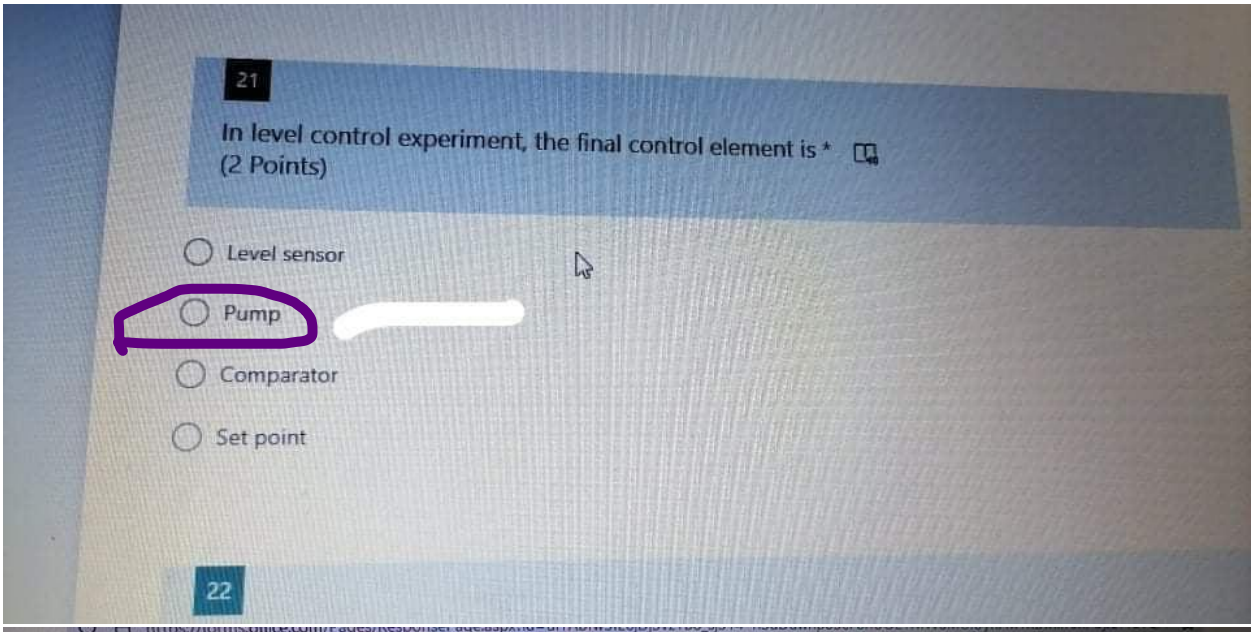
26

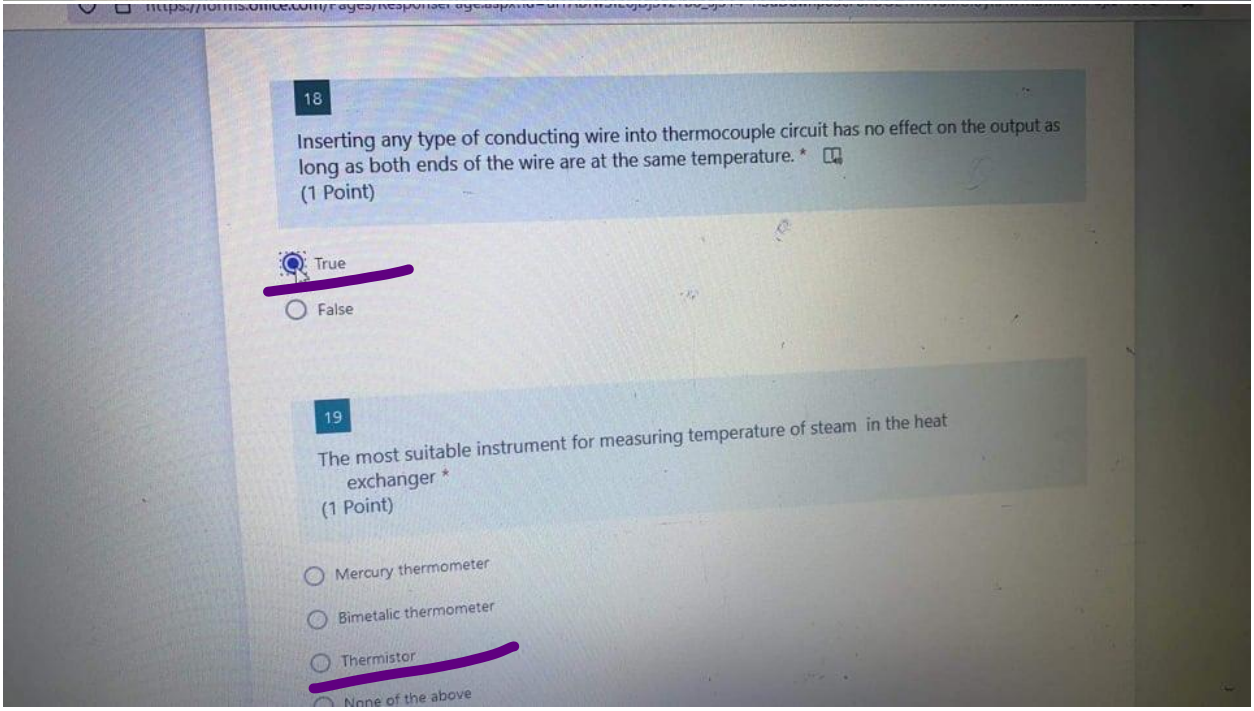


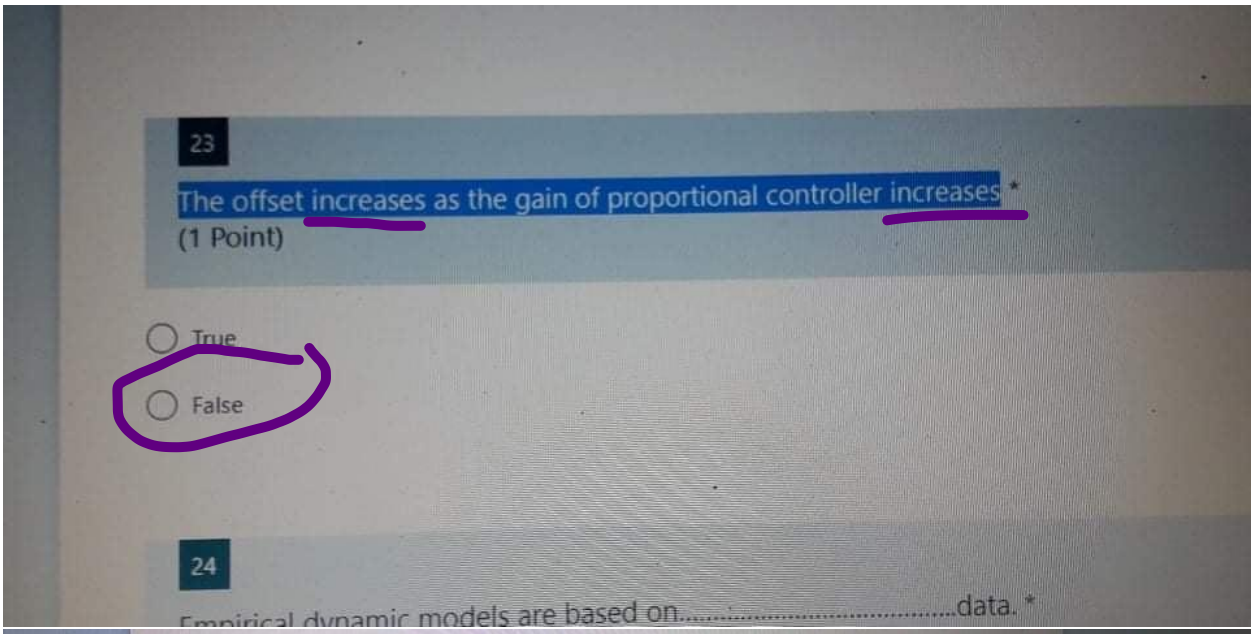
When comparing the Patching diagram for Proportional controller with General control loop block diagram, the correct match is: *
(1 Point)

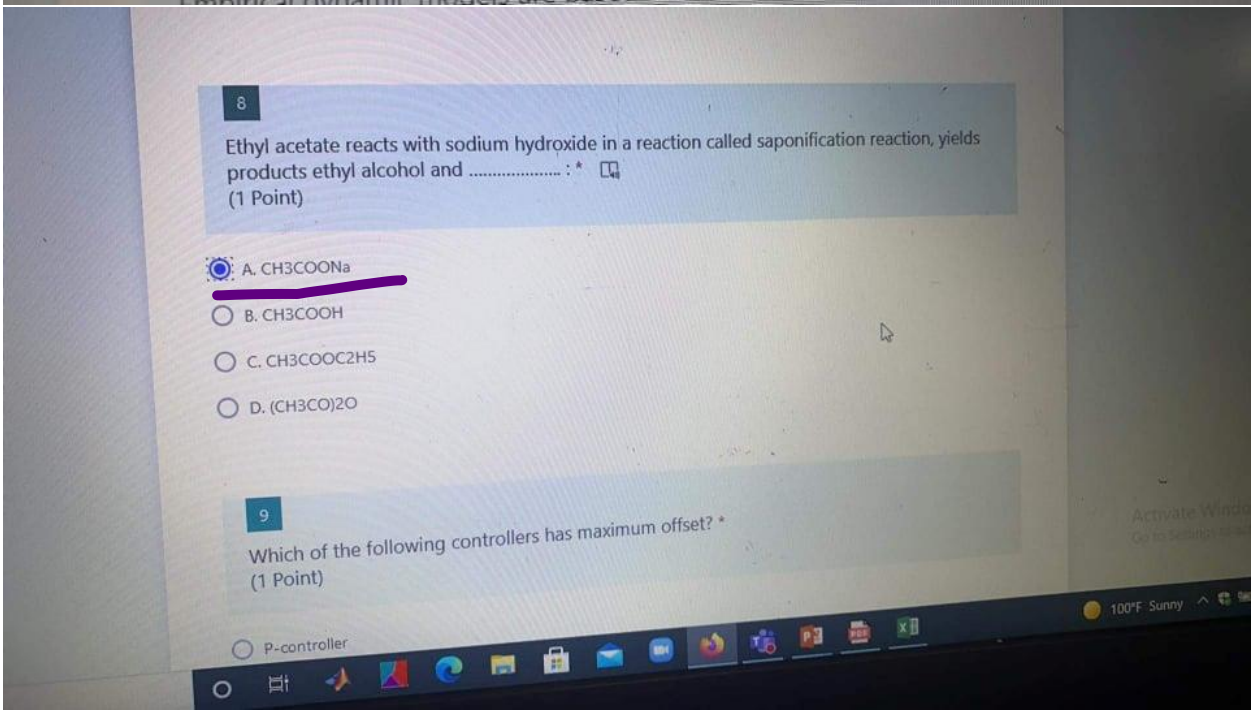
- B with controller, Kp with final control element
- A with comparator , Kp with controller
- B with comparator , Kp with controller
- C with comparator , Kp with controller

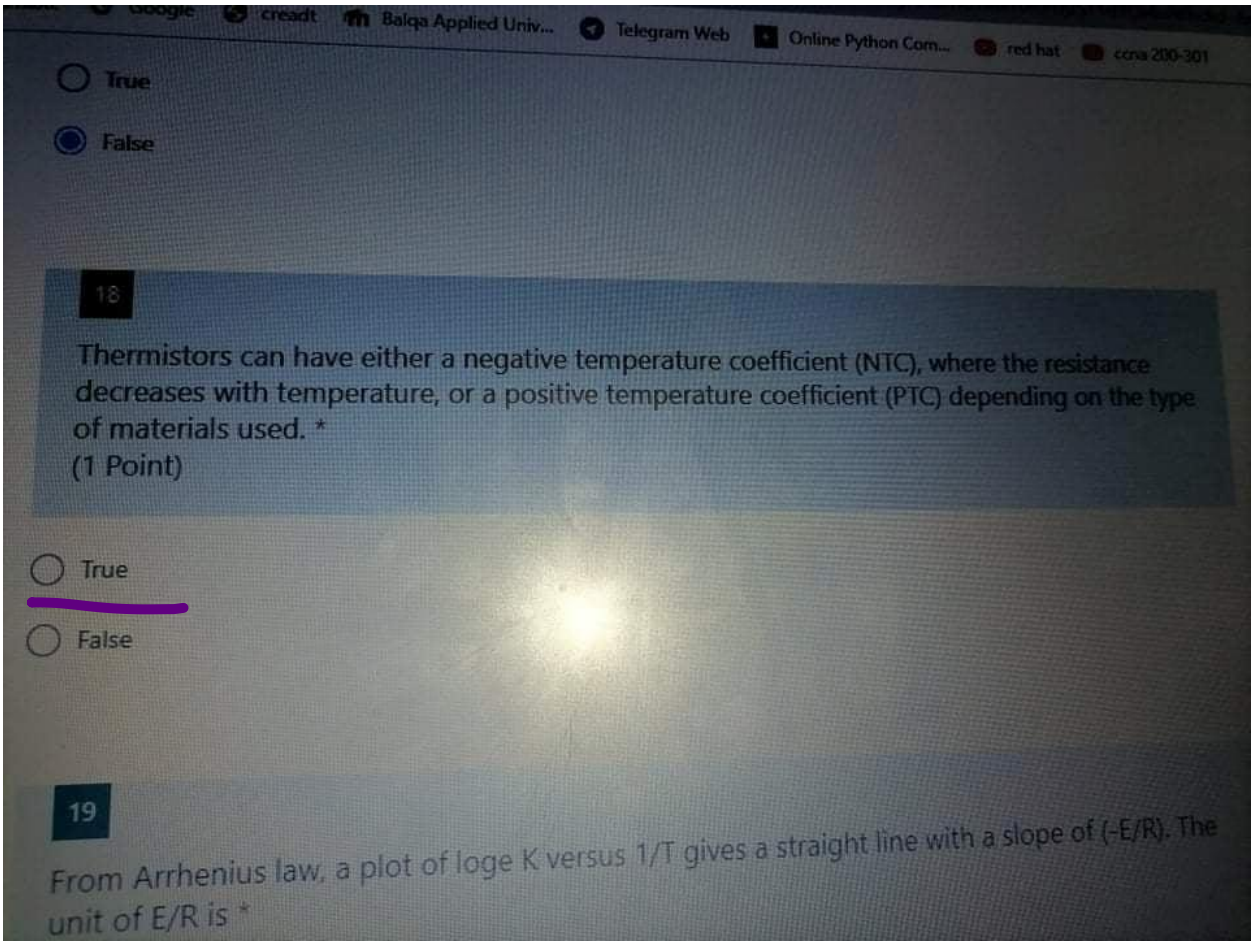

Lab 4 Final
Polymer Records - Google Drive
Arrhenious equation represents
/forms.office.com/Pages/ResponsePage.aspx?id=ul1ABTw3IE6jDj5vz188_sj314-TI3dDuwhpo5c7brlUOE1NNVdMUlUyRFM
2
The calibration data of a thermocouple are given below.The hot junction of the thermocou
is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocou
*
(1 Point)
Hot junction temperature (°C) 0 20 40 60 80 100
Thermo emf (mv) 0.00 0.80 1.61 2.43 3.26 4.10
4.06
3.26
2.46
1.61
3
From Arrhenius law, a plot of loge K versus 1/T gives a straight line with a slope of (-E/R). The unit of E/R is *
(1 Point)
kcal
kcal/K


21
In level control experiment, the final control element is *
(2 Points)
Level sensor
Pump
Comparator
Set point
22


18
Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)
True
False
19
The most suitable instrument for measuring temperature of steam in the heat exchanger *
(1 Point)
Mercury thermometer
Bimetalic thermometer
Thermistor
None of the above


23
The offset increases as the gain of proportional controller increases *
(1 Point)
True
False
24
Empirical dynamic models are based on.....data. *


8
Ethyl acetate reacts with sodium hydroxide in a reaction called saponification reaction, yields products ethyl alcohol and ..... : *
(1 Point)
A. CH3COONa
B. CH3COOH
C. CH3COOC2H5
D. (CH3CO)2O
9
Which of the following controllers has maximum offset? *
(1 Point)
P-controller
100°F Sunny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True
False
18
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)
True
False
19
From Arrhenius law, a plot of loge K versus 1/T gives a straight line with a slope of (-E/R). The unit of E/R is *

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2

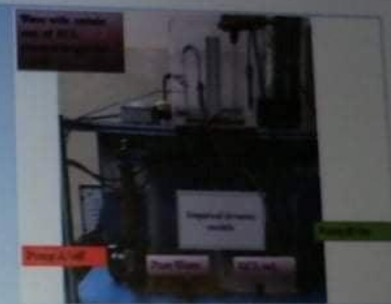
To generate empirical models, one of the step test procedure is carried out the process with closed loop *
(1 Point)

- ○ True
- ○ False

3

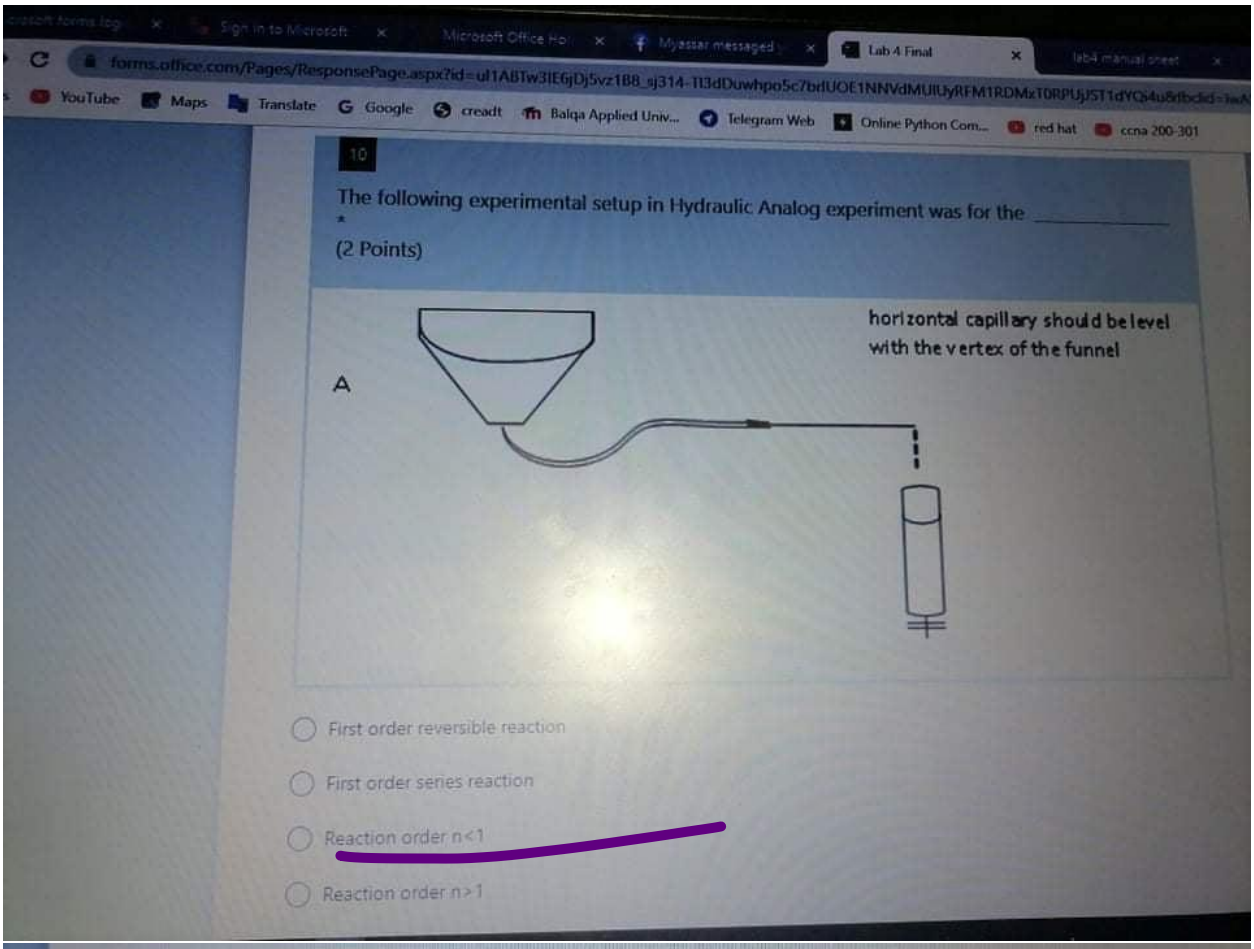
The offset increases as the gain of proportional controller increases *
(1 Point)

13



The following setting in Empi[illegible]mic models experiment was for: *
(1 Point)

- ◯ Impulse response
- ◯ Step up response
- ◯ Step down response
- ◯ Step up + step down response


Lab 4 Final
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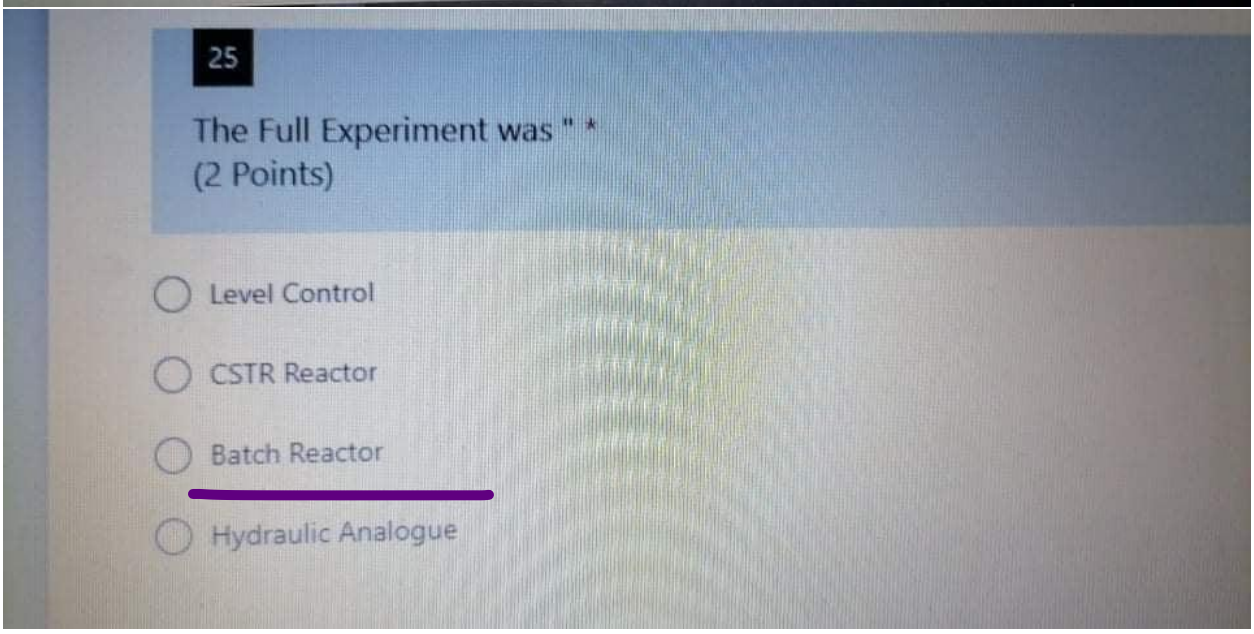
10
The following experimental setup in Hydraulic Analog experiment was for the _____
*
(2 Points)
A
horizontal capillary should be level with the vertex of the funnel
First order reversible reaction
First order series reaction
Reaction order n<1
Reaction order n>1


25
The Full Experiment was " *
(2 Points)
Level Control
CSTR Reactor
Batch Reactor
Hydraulic Analogue

21

In temperature measurement experiment ,when take the reading of the voltage for the series connection , the voltage value must be divided by ------ to have the temperature reading: *

(1 Point)

- 40
- 1
- 2
- 4

22

Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature *

(1 Point)

- Increase of pressure
- Increase of thermal conductivity
- Volumetric expansion

- A+B
- None of the above

25

The Full Experiment was " *

(2 Points)

- Level Control
- CSTR Reactor
- Batch Reactor
- Hydraulic Analogue

26

29

In temperature measurement experiment ,when take the reading of the voltage for the series connection , the voltage value must be divided by ----- to have the temperature reading: *

(1 Point)

- 40
- 1
- 2
- 4

...concentration of NaOH and

20

Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature *

(1 Point)

- Increase of pressure
- Increase of thermal conductivity
- Volumetric expansion
- All of the above

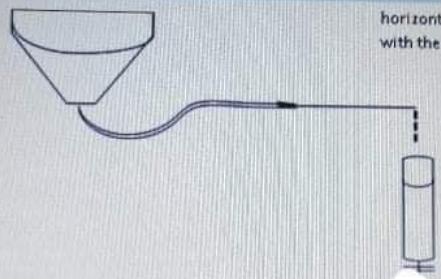
21

The following experimental setup in Hydraulic Analog experiment was for the _____

The following experimental setup in Hydraulic Analog experiment was for the _____ *

(2 Points)

A



horizontal capillary should be level with the vertex of the funnel

- First order reversible reaction
- First order series reaction
- Reaction order n<1
- Reaction order n>1

28

Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *

(1 Point)

- True
- False

29

Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *

(1 Point)

- True
- False

21

In level control experiment, the final control element is * (2 Points)

- Level sensor
- Pump
- Comparator
- Set point

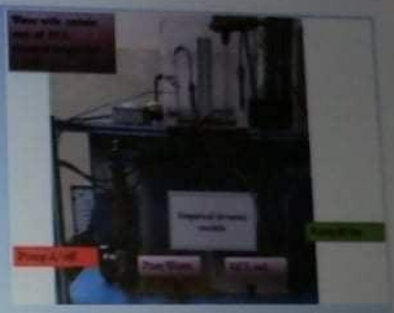
22

7

The difference between the true (standard) value and the result of measurement is * (2 Points)

- Accuracy
- Error
- Repeatability
- Reproducibility

13



The following setting in Empir[illegible]mic models experiment was for: *
(1 Point)

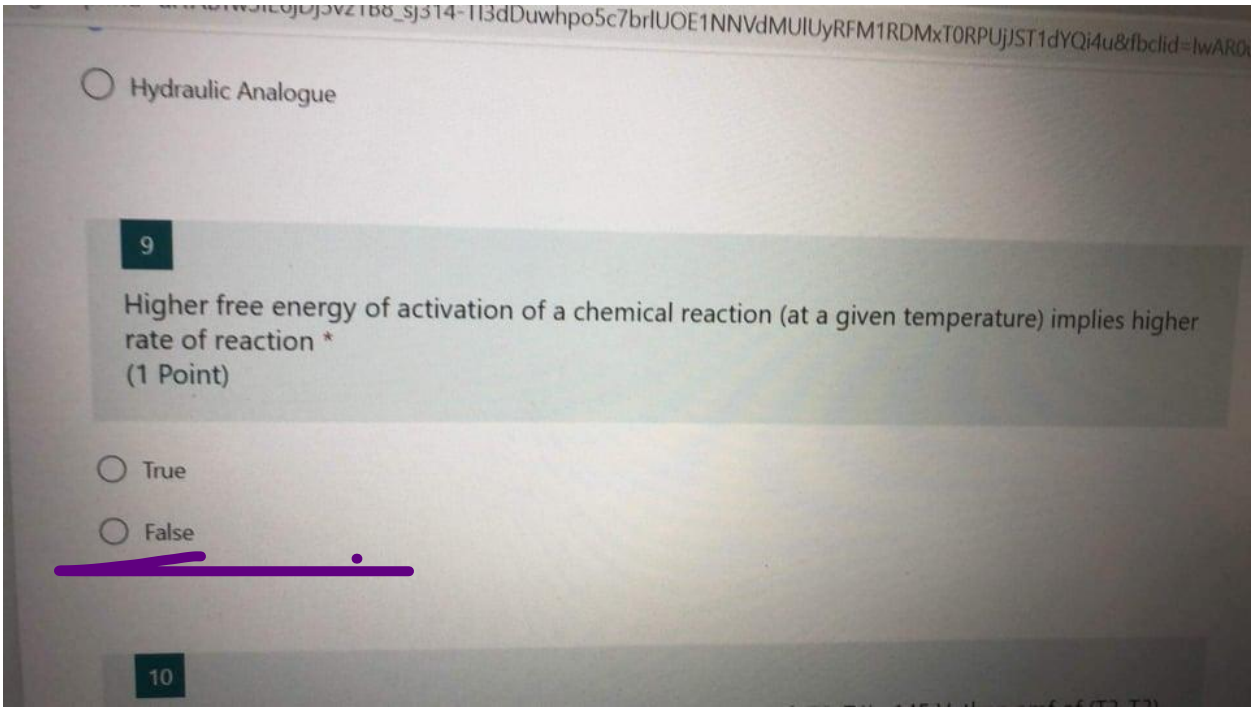
- Impulse response
- Step up response
- Step down response
- Step up + step down response

9

Which of the following controllers has maximum offset? *
(1 Point)

- P-controller
- PI-controller
- PD-controller
- PID-controller

10


Hydraulic Analogue
9
Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)
True
False
10

7

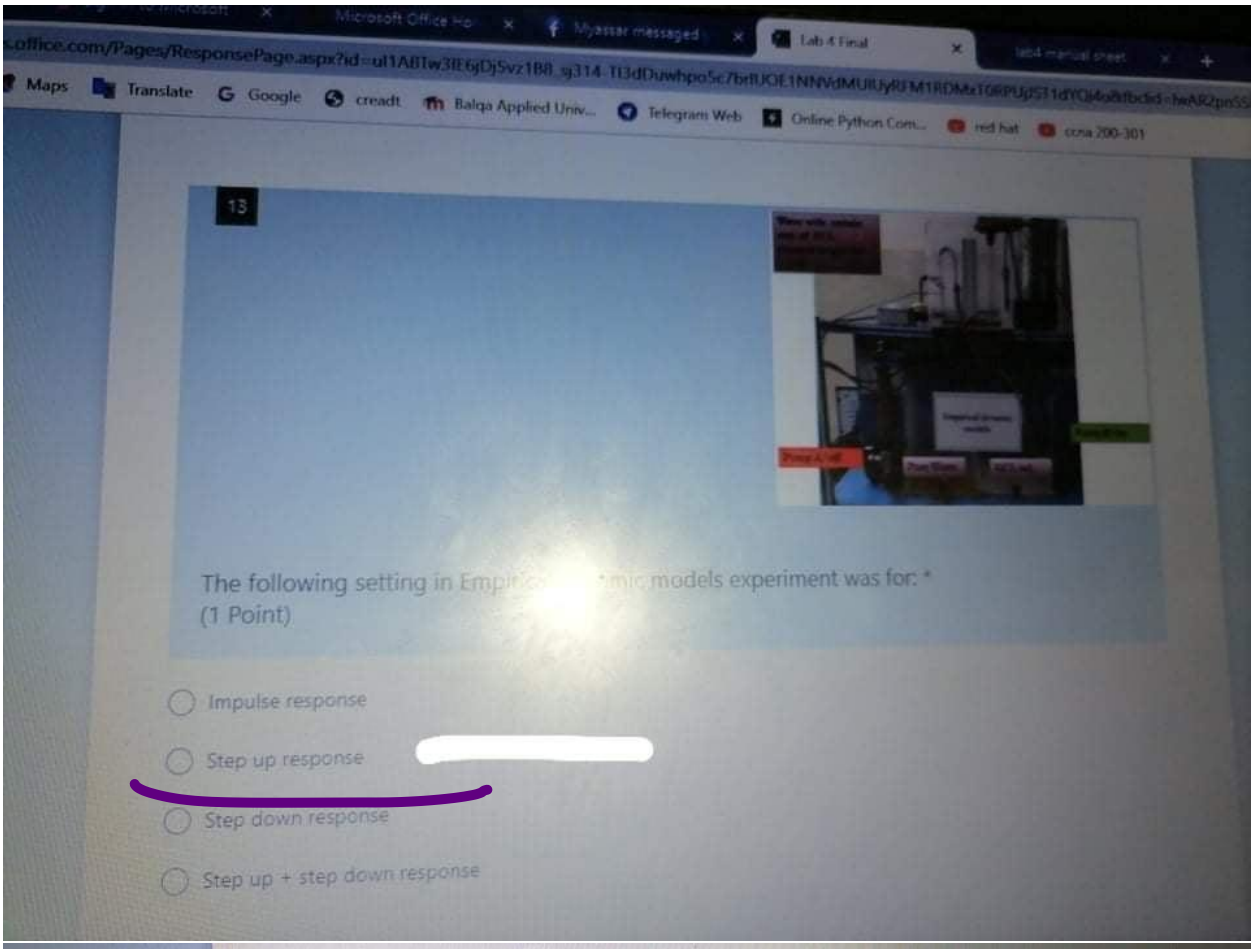
The difference between the true (standard) value and the result of measurement is * (2 Points)

- Accuracy
- Error
- Repeatability
- Reproducibility

7

The difference between the true (standard) value and the result of measurement is * (2 Points)

- Accuracy
- Error
- Repeatability
- Reproducibility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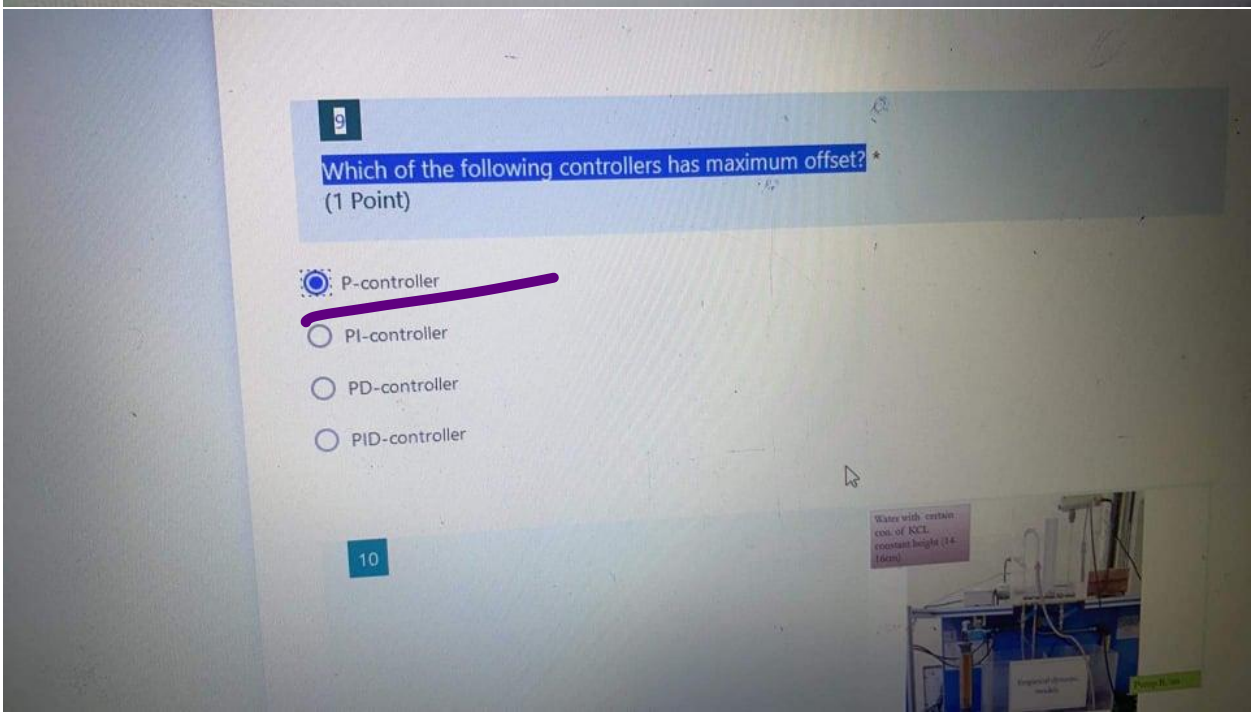
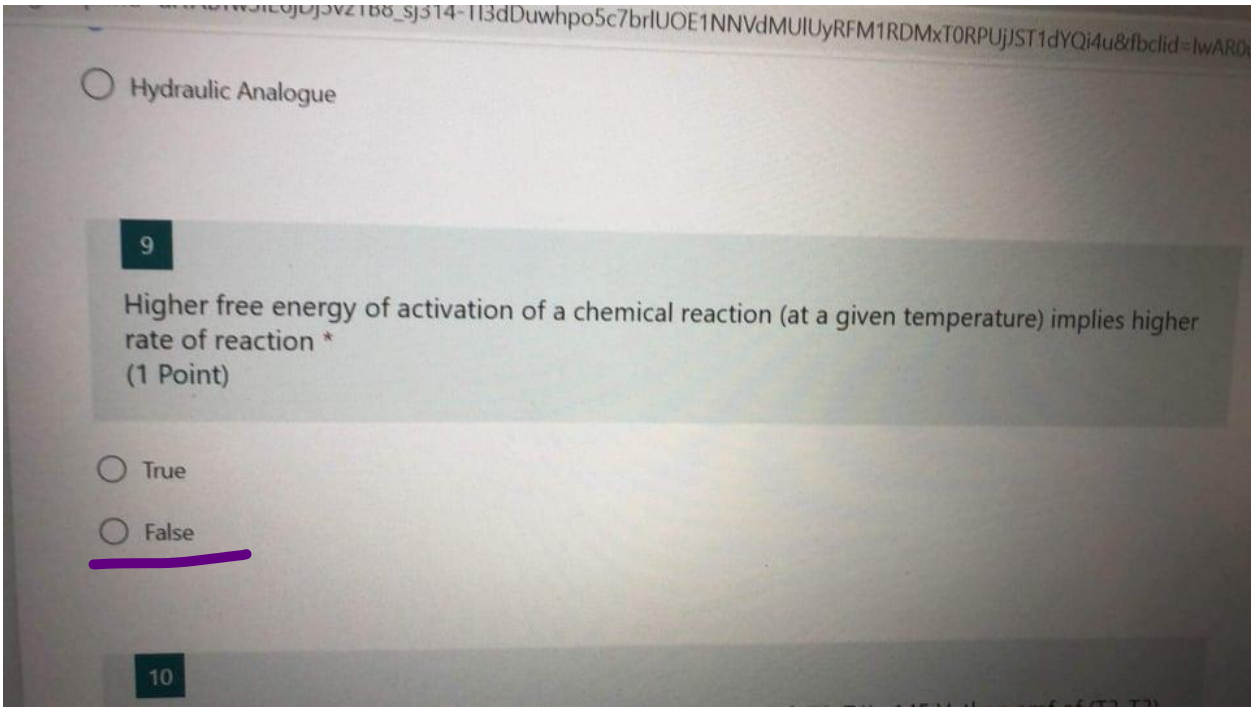
13
The following setting in Empir mic models experiment was for: *
(1 Point)
Impulse response
Step up response
Step down response
Step up + step down response


9
Which of the following controllers has maximum offset? *
(1 Point)
P-controller
PI-controller
PD-controller
PID-controller
10


Hydraulic Analogue
9
Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)
True
False
10

a. Steady State Erro

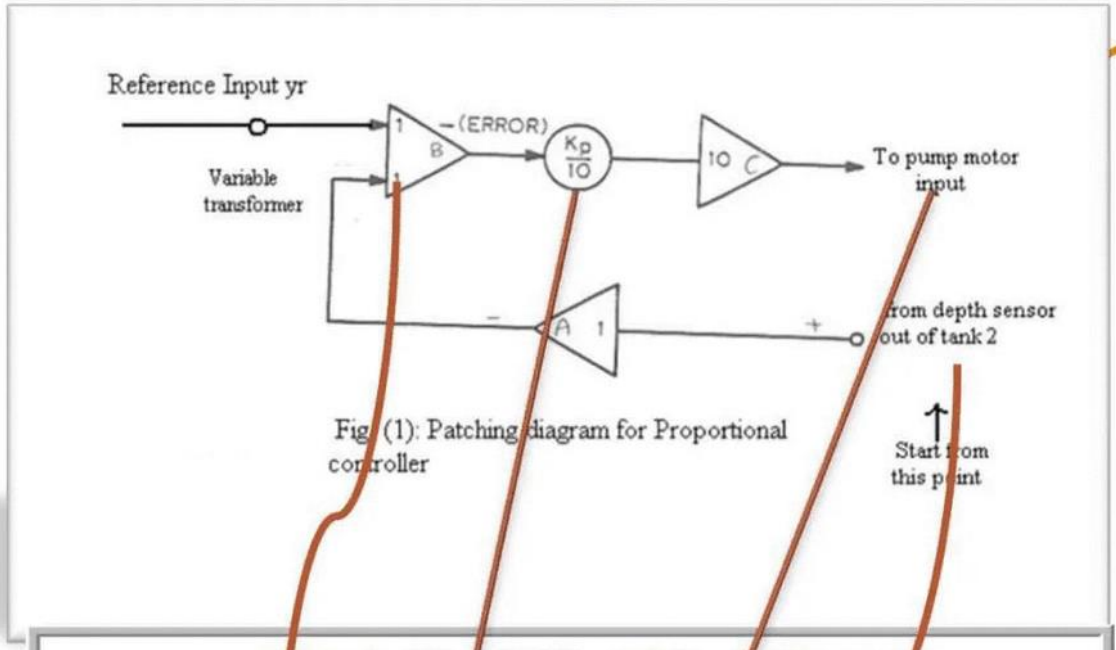
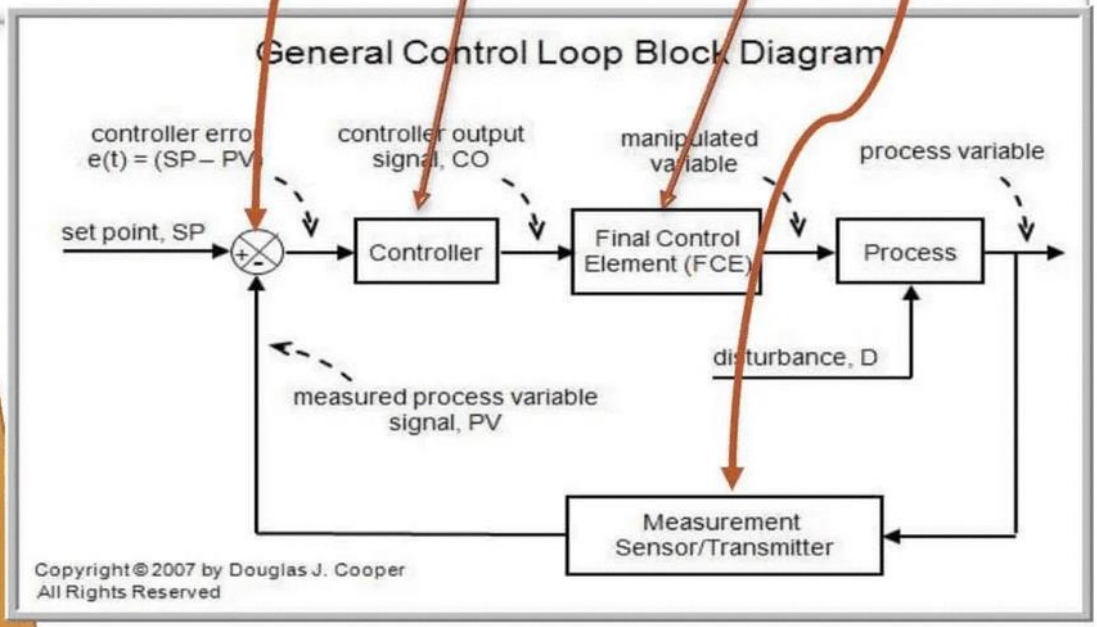
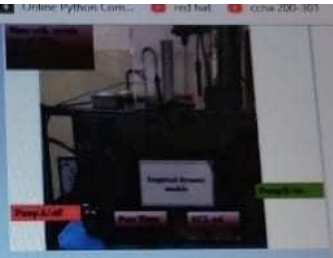


Fig. (1): Patching diagram for Proportional controller



13



The following setting in Empirical dynamic models experiment was for: *
(1 Point)

- Impulse response
- Step up response
- Step down response
- Step up + step down response

- 35 V
- Can not be found

5

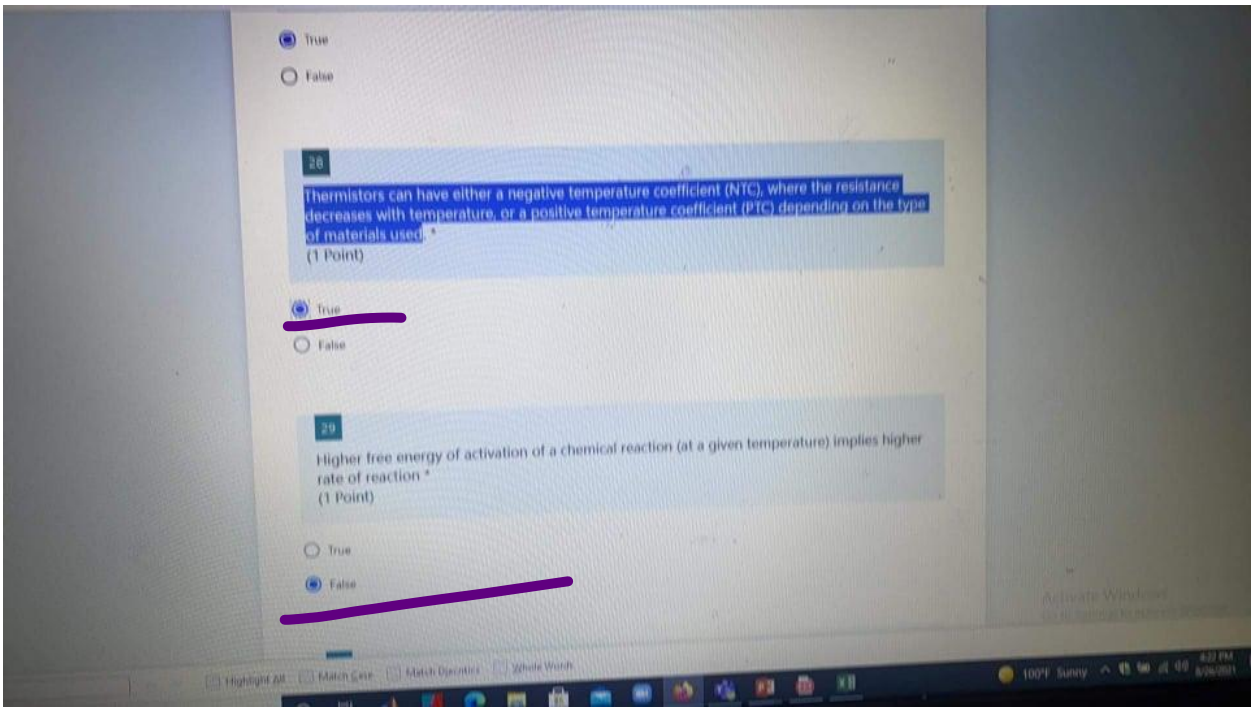
In the law of intermediate metal any metal can be used without any condition *
(1 Point)

- True
- False

6

The offset introduced by proportional controller with gain Kc in response of first order system can be reduced by *
(1 Point)

- Reducing value of Kc
- Introducing integral control

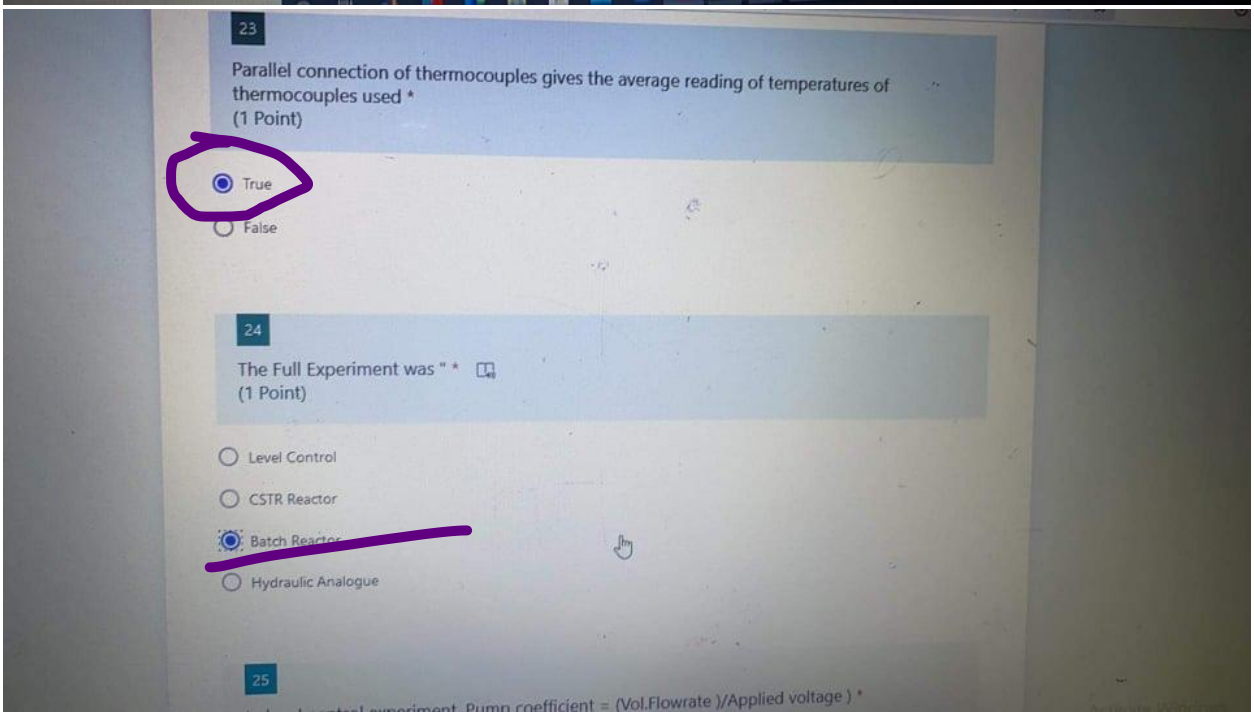

True
False

28
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)

True
False

29
Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)

True
False


23
Parallel connection of thermocouples gives the average reading of temperatures of thermocouples used *
(1 Point)

True
False

24
The Full Experiment was " *
(1 Point)

Level Control
CSTR Reactor
Batch Reactor
Hydraulic Analogue

25
Pump coefficient = (Vol.Flowrate)/Applied voltage) *

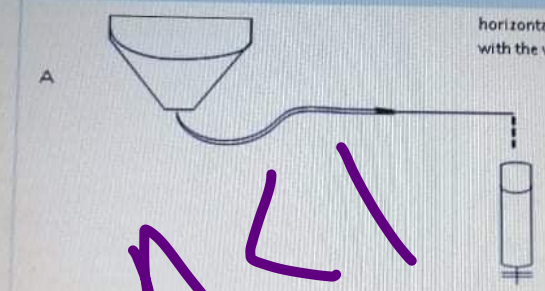
6

Inserting any type of conducting wire into thermocouple circuit has no effect on the output a long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

7

The following experimental setup in Hydraulic Analog experiment was for the _____ *
(2 Points)



- First order reversible reaction
- First order series reaction
- Reaction order n<1
- Reaction order n>1

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2

To generate empirical models, one of the step test procedure is carried out the process with closed loop *
(1 Point)

- ◯ True
- ◯ False

3

The offset increases as the gain of proportional controller increases *
(1 Point)

11

The calibration data of a thermocouple are given below.The hot junction of the thermocouple is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocouple? *
(2 Points)

Hot junction temperature (°C)	0	20	40	60	80	100
Thermo emf (mv)	0.00	0.80	1.61	2.43	3.26	4.10

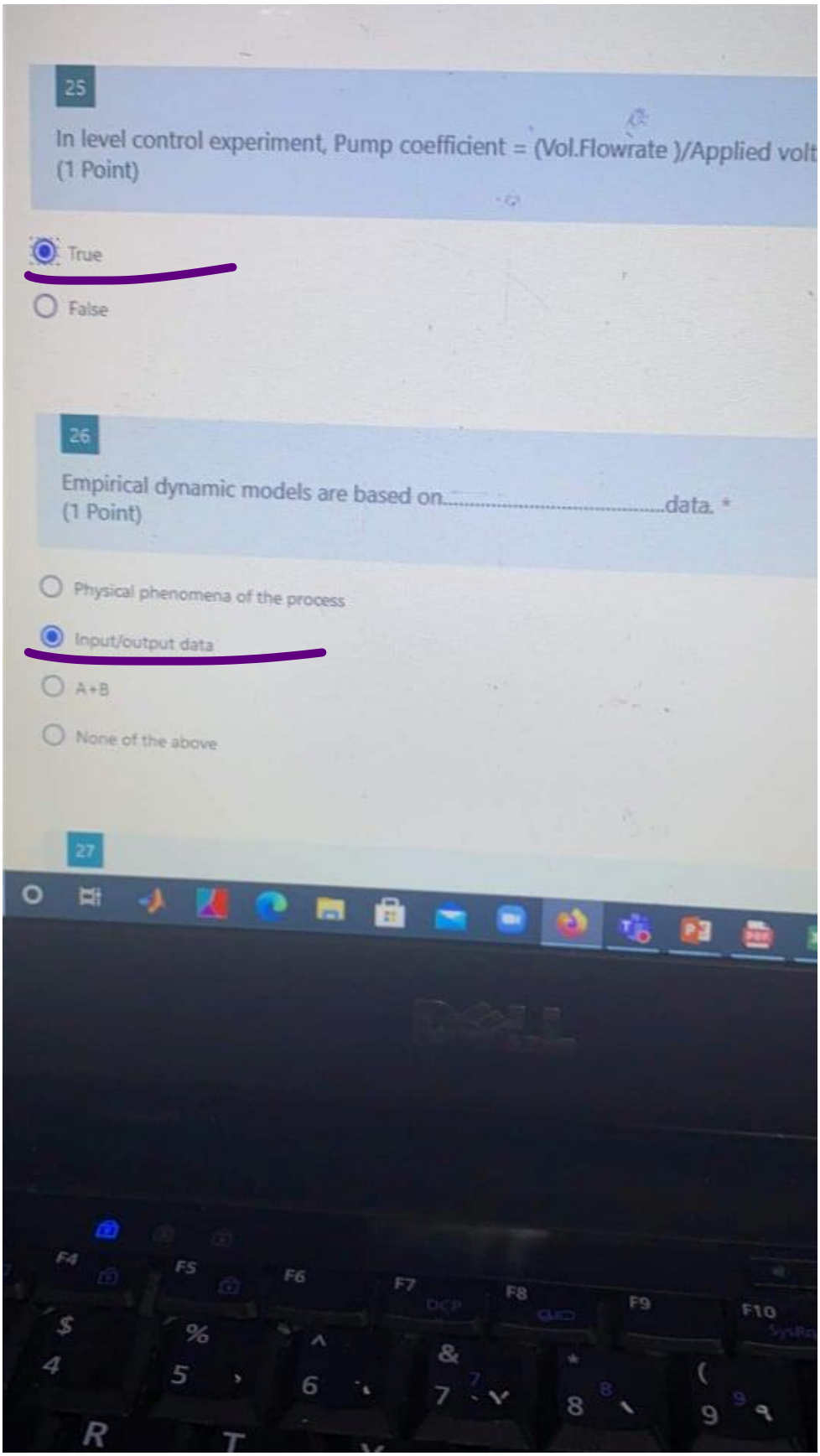
- ◯ 4.06
- ◯ 3.26
- ◯ 2.46
- ◯ 1.61

22

The most suitable instrument for measuring temperature of steam in the heat exchanger * (1 Point)

- Mercury thermometer
- Bimetalic thermometer
- Thermistor
- None of the above

23


25
In level control experiment, Pump coefficient = (Vol.Flowrate)/Applied volt
(1 Point)
True
False
26
Empirical dynamic models are based on.....data. *
(1 Point)
Physical phenomena of the process
Input/output data
A+B
None of the above
27

A+B

None of the above

25

The Full Experiment was " *
(2 Points)

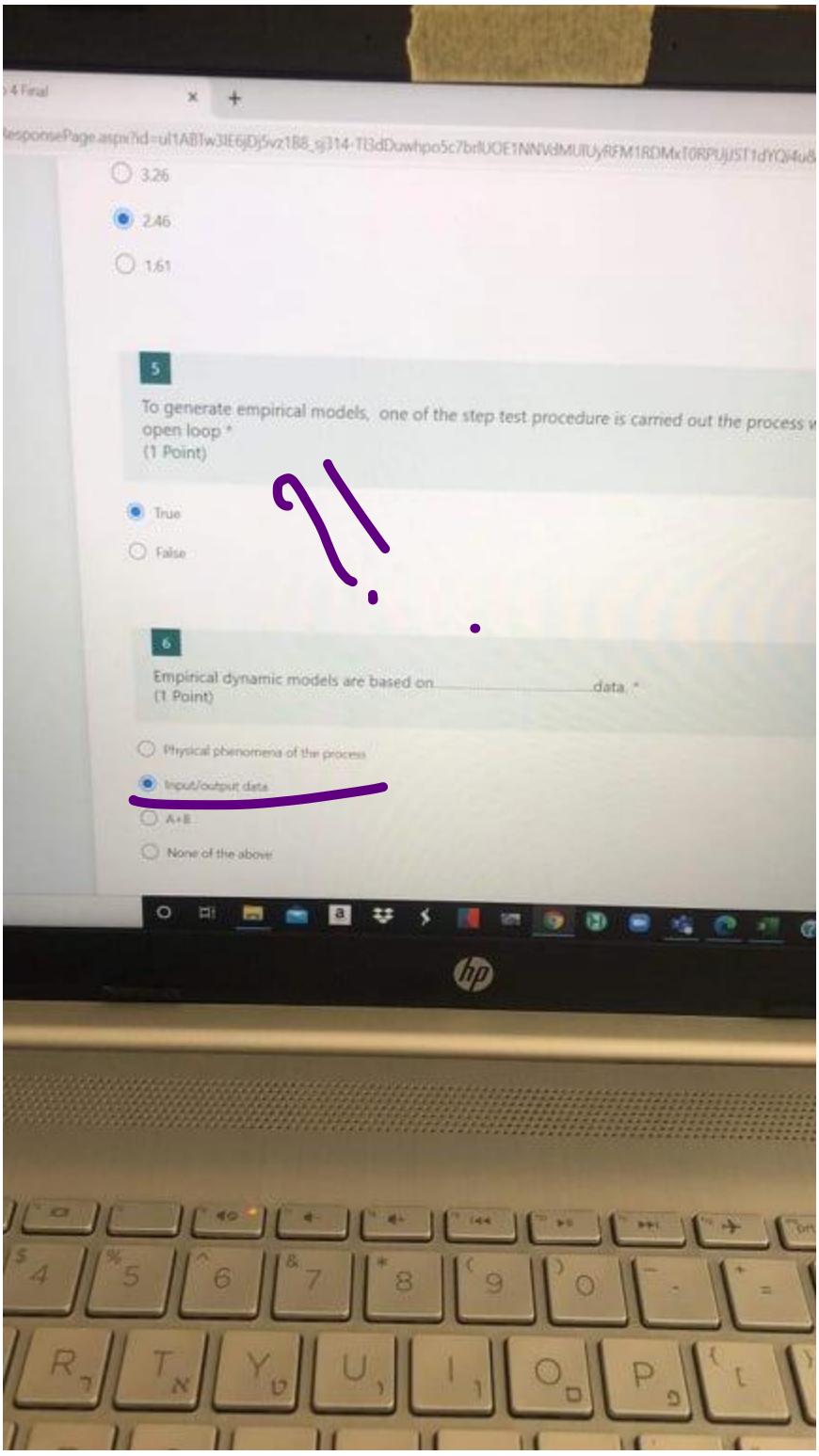
Level Control

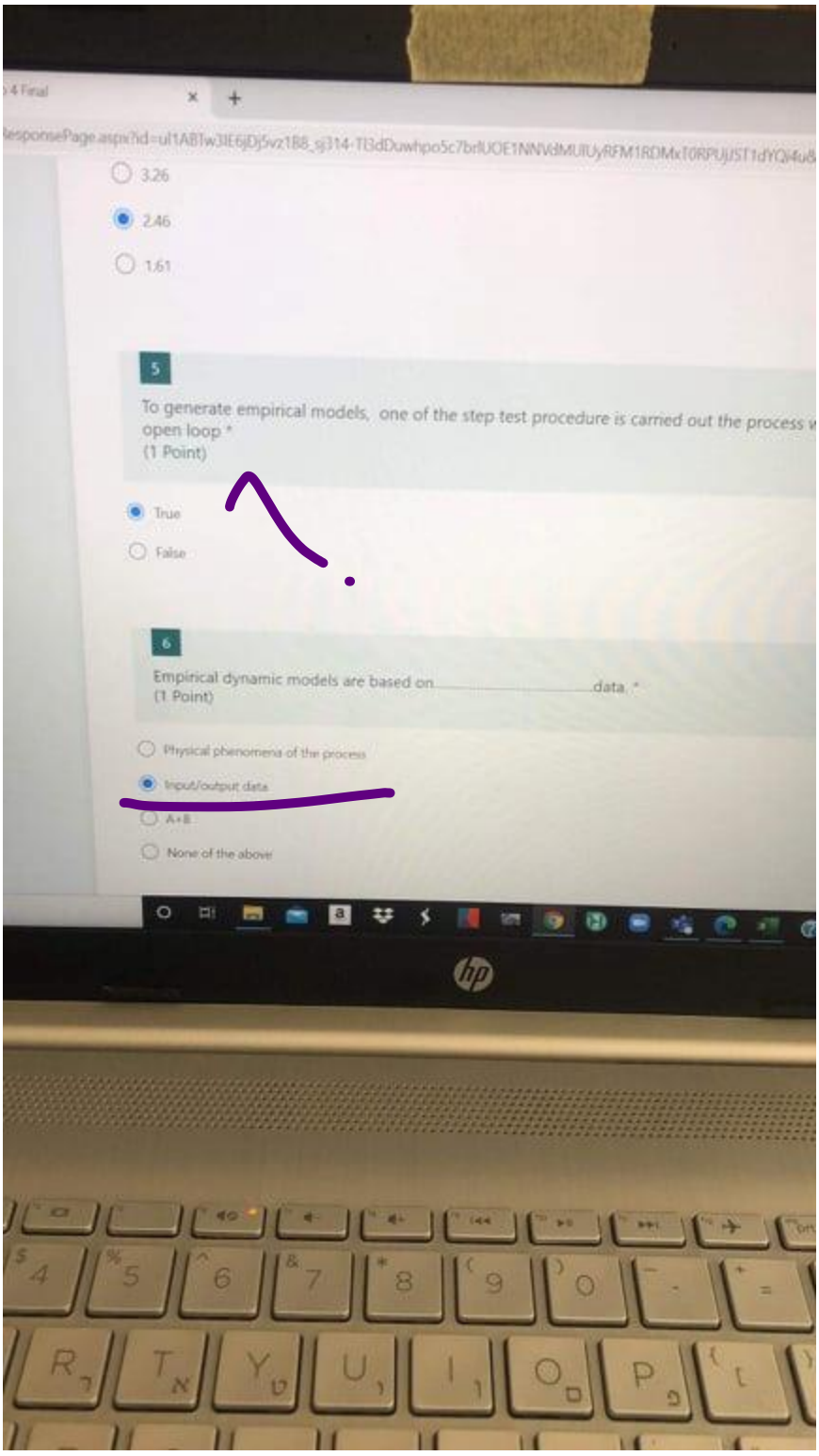
CSTR Reactor

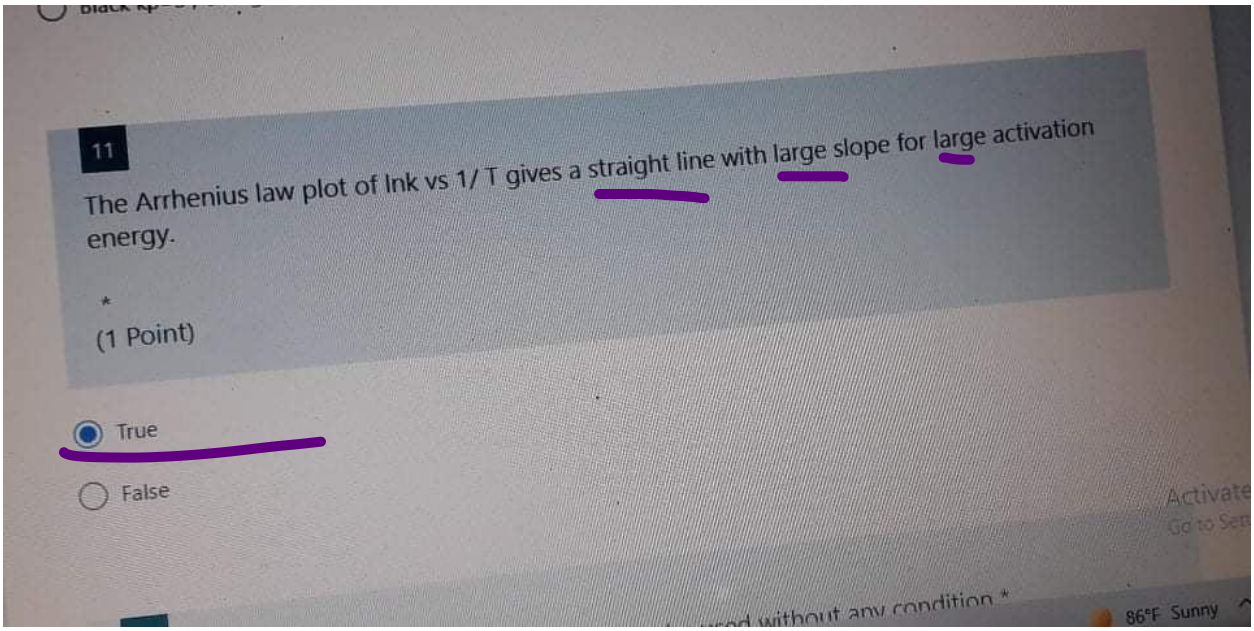
Batch Reactor

Hydraulic Analogue

26


3.26
2.46
1.61
5
To generate empirical models, one of the step test procedure is carried out the process
open loop *
(1 Point)
True
False
6
Empirical dynamic models are based on data. *
(1 Point)
Physical phenomena of the process
Input/output data
A+B
None of the above


3.26
2.46
1.61
5
To generate empirical models, one of the step test procedure is carried out the process
open loop *
(1 Point)
True
False
6
Empirical dynamic models are based on data. *
(1 Point)
Physical phenomena of the process
Input/output data
A+B
None of the above


11
The Arrhenius law plot of lnk vs 1/ T gives a straight line with large slope for large activation energy.
*
(1 Point)
True
False
86°F Sunny

True

False

6

The offset introduced by proportional controller with gain Kc in response of first o
can be reduced by *
(1 Point)

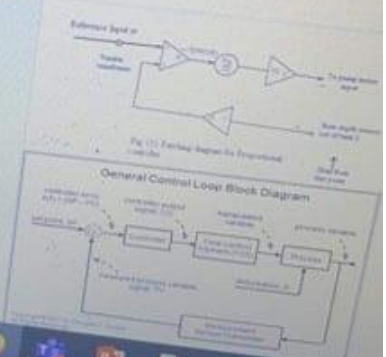
Reducing value of Kc

Introducing integral control

Introducing derivative control

None of the above

7



Lab 4 Final | Polymer Records - Go | From Arhenius law a p | The offset intro

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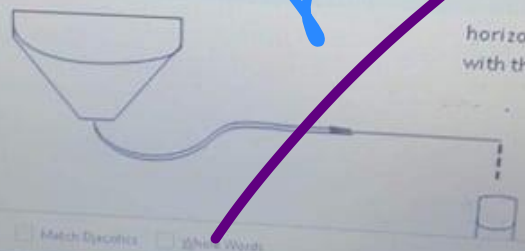
16

The rate constant of a chemical reaction increses by incresing the *
(1 Point)

- Pressure
- Time
- Concentration of reactants
- Temperature

17

The following experimental setup in Hydraulic An log experim t was for the _
*
(1 Point)



horizontal capillary sh
with the vertex of the f

Highlight all | Match Case | Match Diacritics | Whole Words

6

Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

11

The calibration data of a thermocouple are given below.The hot junction of the thermocouple is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocouple? *
(2 Points)

Hot junction temperature (°C)	0	20	40	60	80	100
Thermo emf (mv)	0.00	0.80	1.61	2.43	3.26	4.10

- 4.06
- 3.26
- 2.46
- 1.61

12

The rate constant of a chemical reaction increses by incresing the *
(2 Points)

11

The calibration data of a thermocouple are given below.The hot junction of the thermocouple is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocouple? *

(2 Points)

Hot junction temperature (°C)	0	20	40	60	80	100
Thermo emf (mv)	0.00	0.80	1.61	2.43	3.26	4.10

- 4.06
- 3.26
- 2.46
- 1.61
- Error
- Repeatability
- Reproducibility

12

All types of thermocouples have the same color of wire *

(1 Point)

- True
- False

13

The Arrhenius law plot of lnk vs 1/ T gives a straight line with large slope for large activation energy.

*

100°F Sunny

فيسبوك - تسجيل | Lab 4 Final | Polymer Records - Google Drive | From

https://forms.office.com/Pages/ResponsePage.aspx?id=ul1ABTw3IE6jDj5vz1B8_sj314-Tl3dDuwhpo5c7brl

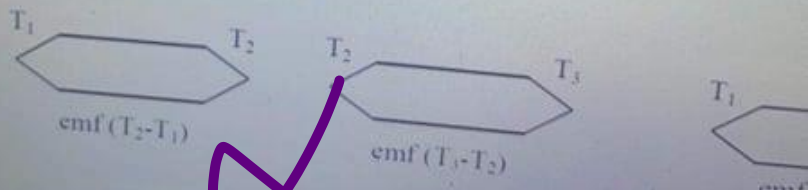
3

From Arrhenius law, a plot of loge K versus 1/T gives a straight line wit
unit of E/R is *
(1 Point)

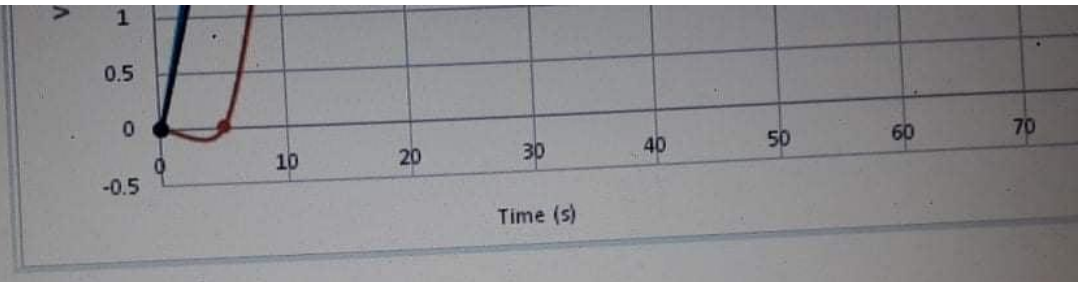
- kcal
- kcal/K
- K
- kcal.K

4

For the following setting : the emf (T3-T1)=180 V,and emf (T2-T1)=145 V ,the
can be found to be: *
(1 Point)



- 180 V
- 325 V
- 35 V



- ○ Black kp=10 , Orange kp=5 , Blue kp =3
- ◉ Black kp=3 , Orange kp=5 , Blue kp =10
- ○ Black kp=5 , Orange kp=3 , Blue kp =10
- ○ Black kp=5 , Orange kp=10 , Blue kp =3

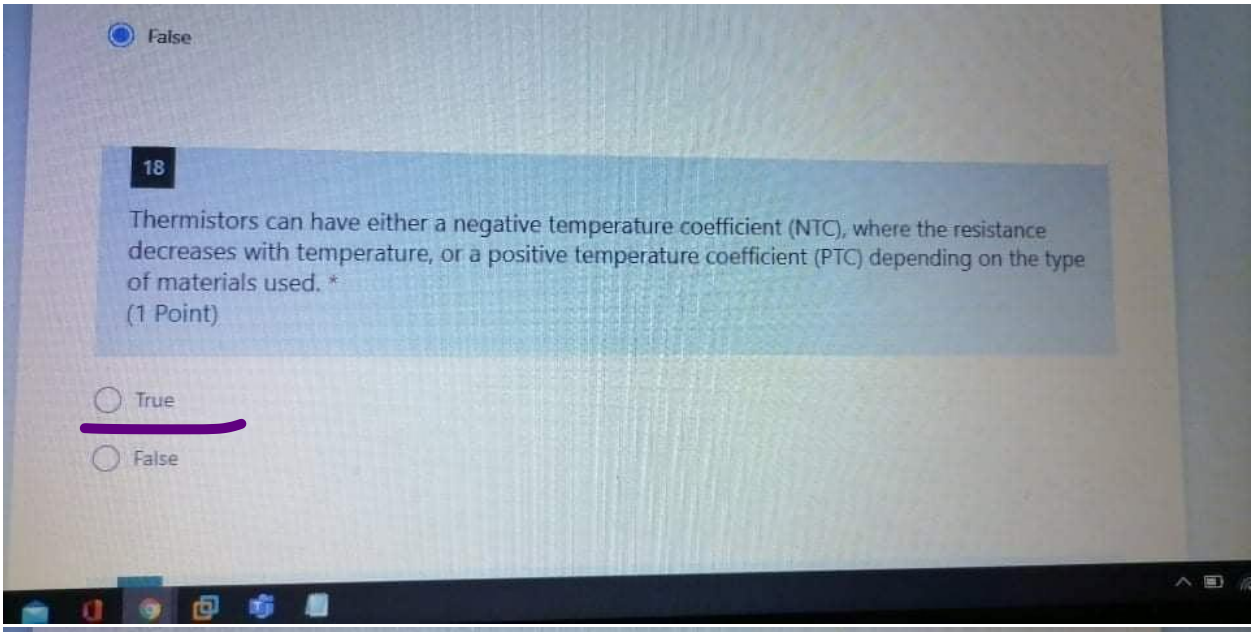
◉ False

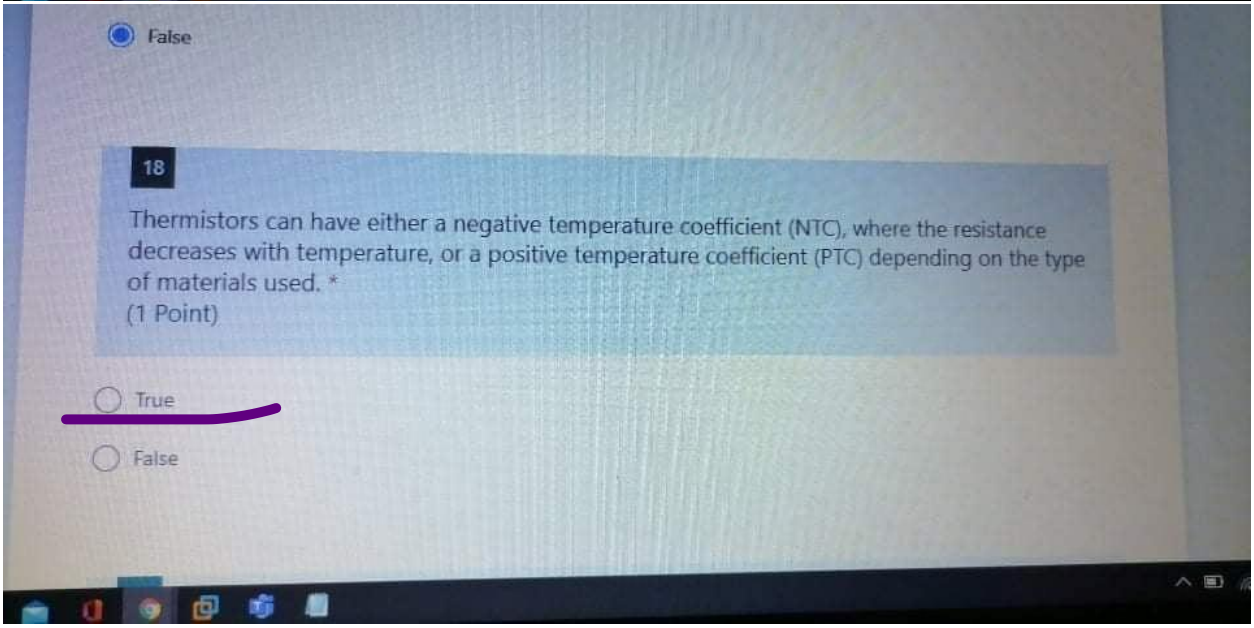
13

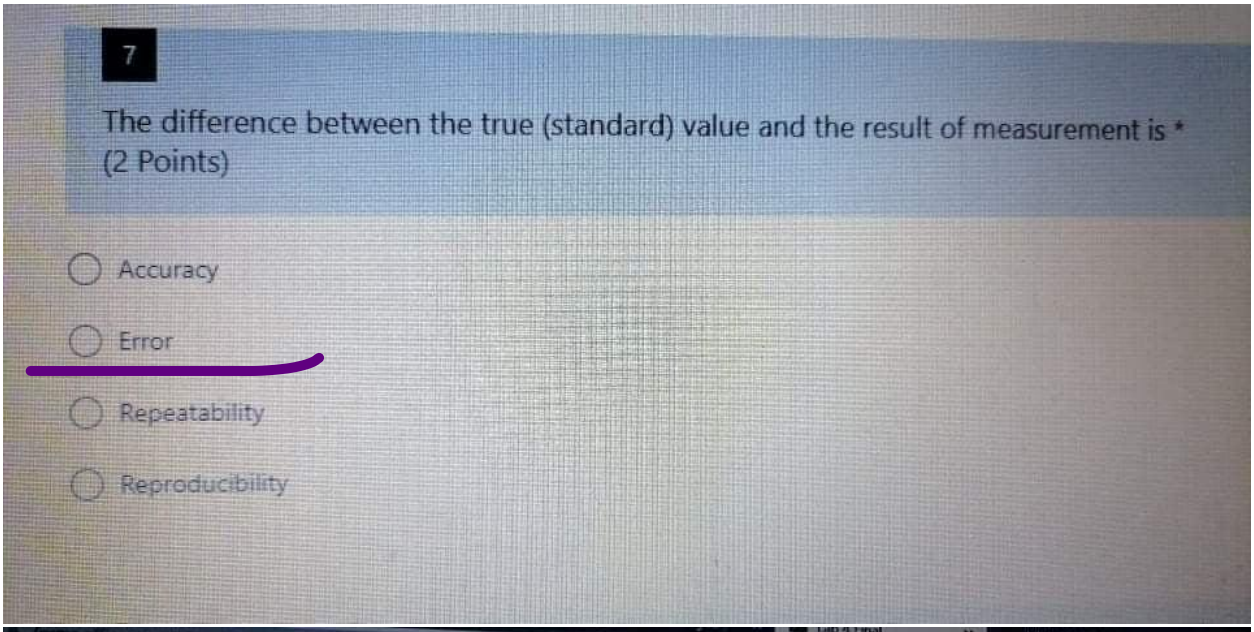
Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *
(1 Point)

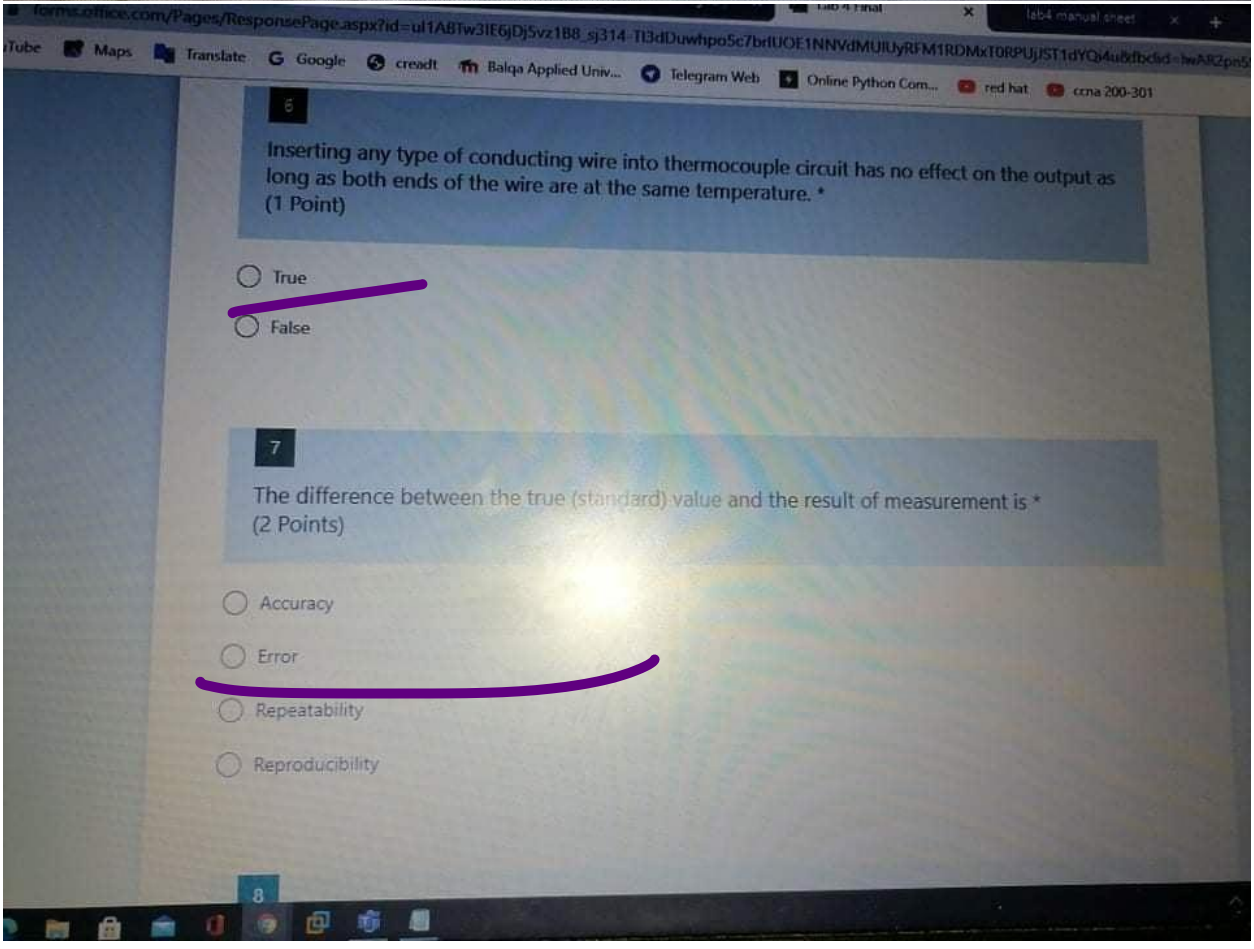
- ○ True
- ◉ False

14


False
18
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)
True
False


False
18
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)
True
False


7
The difference between the true (standard) value and the result of measurement is *
(2 Points)
Accuracy
Error
Repeatability
Reproducibility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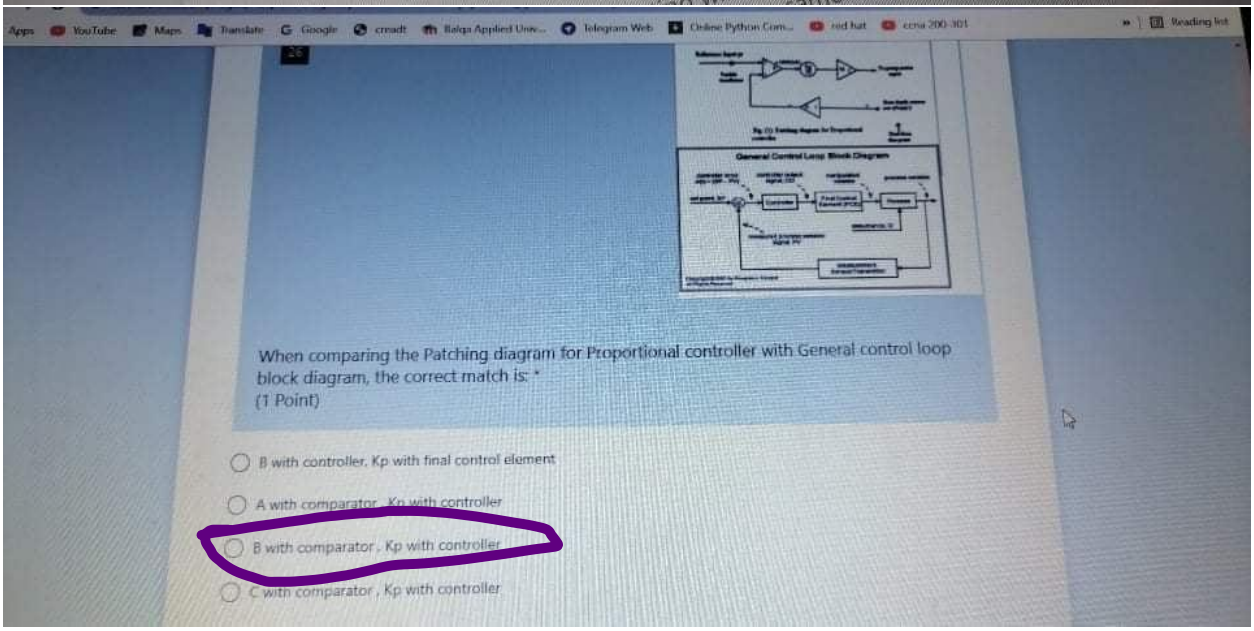
Telegram Web
Online Python Com...
red hat
ccna 200-301
6
Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)
True
False
7
The difference between the true (standard) value and the result of measurement is *
(2 Points)
Accuracy
Error
Repeatability
Reproducibility
8

16

The offset introduced by proportional controller with gain Kc in re
can be reduced by * 🕮
(1 Point)

- Reducing value of Kc
- Introducing integral control
- Introducing derivative control
- None of the above

wire into thermocouple circuit has no effect on the
me temperature. *



None of the

9

Arrhenius equation represents graphically the variation between the _____ and temperature. *
(1 Point)

- Rate of reaction
- Frequency factor
- Rate constant
- Activation of energy

...lors in the following figure is: *

8

Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

8

Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)

- True
- False

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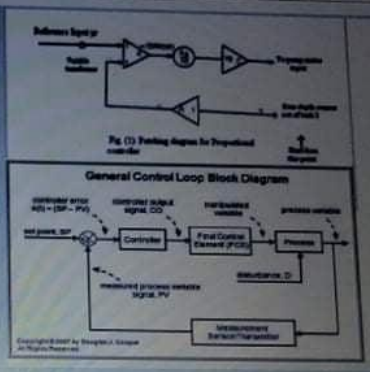
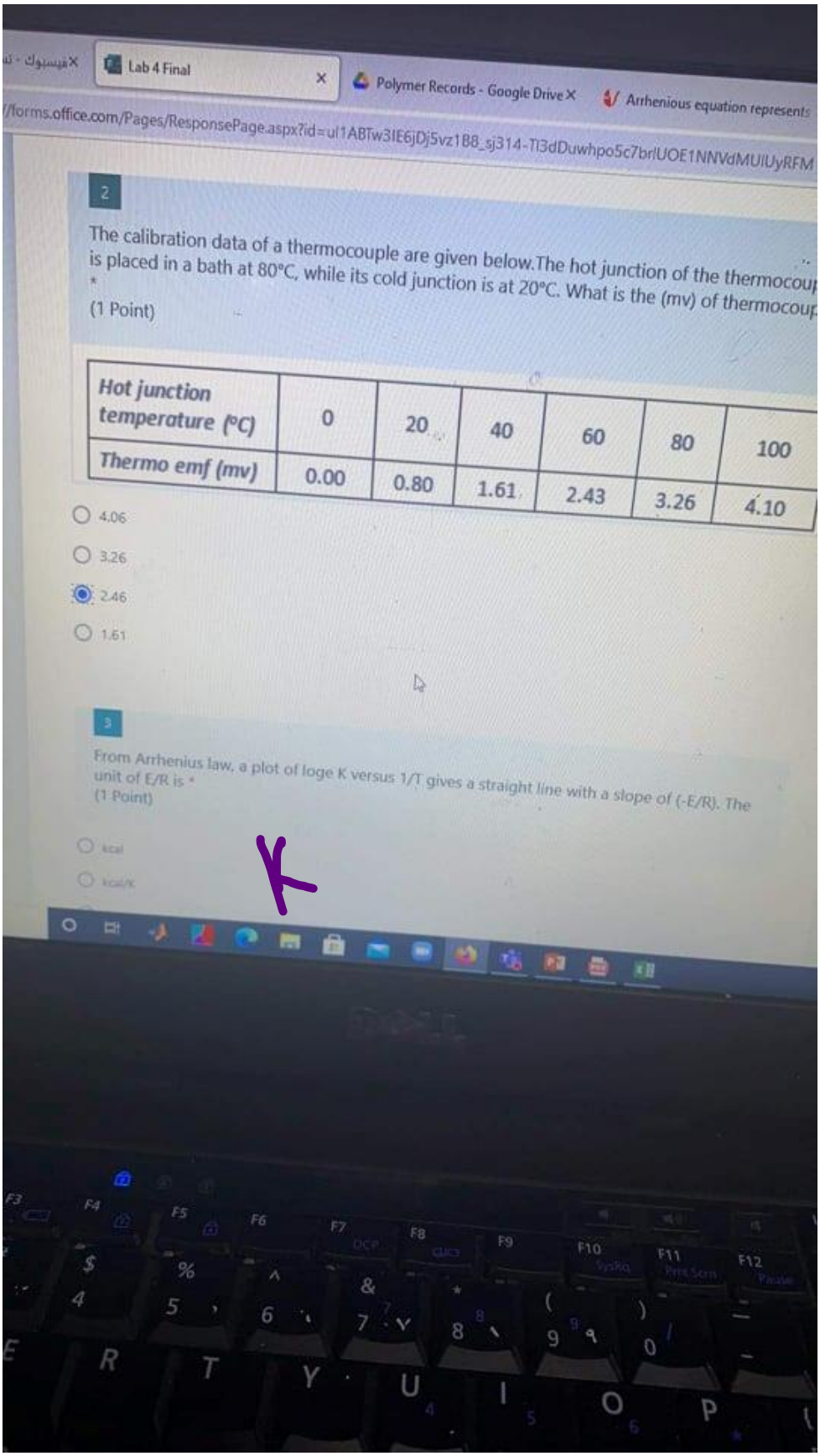


When comparing the Patching diagram for Proportional controller with General control loop block diagram, the correct match is: *
(1 Point)

- B with controller, Kp with final control element
- A with comparator , Kp with controller
- B with comparator , Kp with controller
- C with comparator , Kp with controller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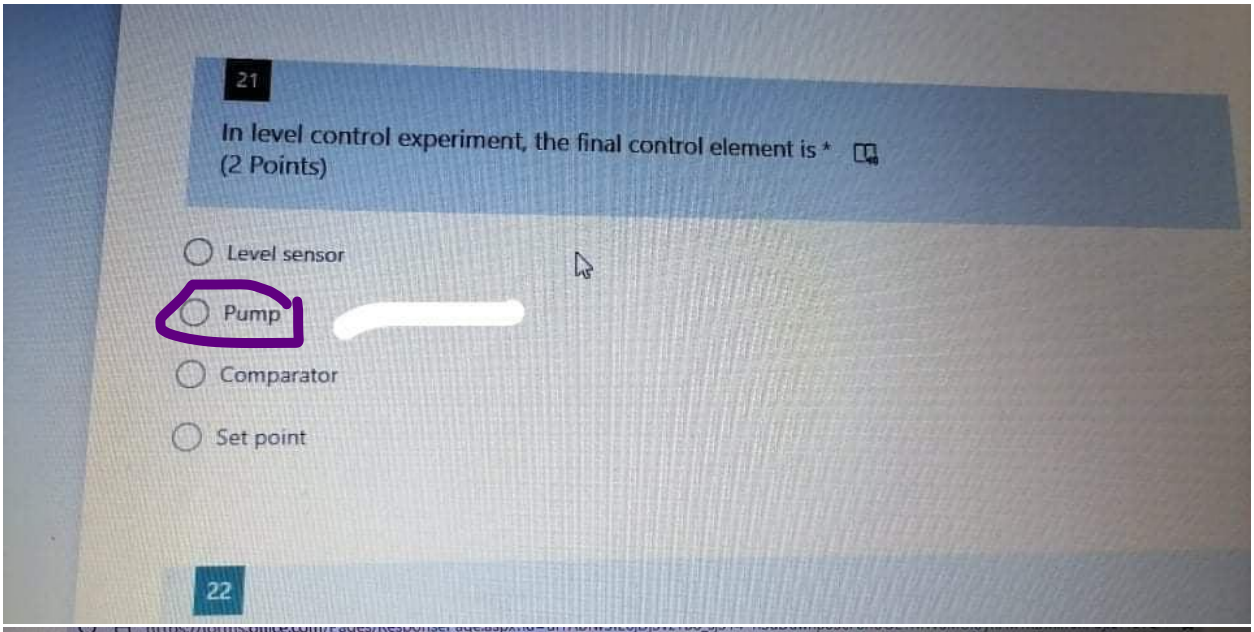
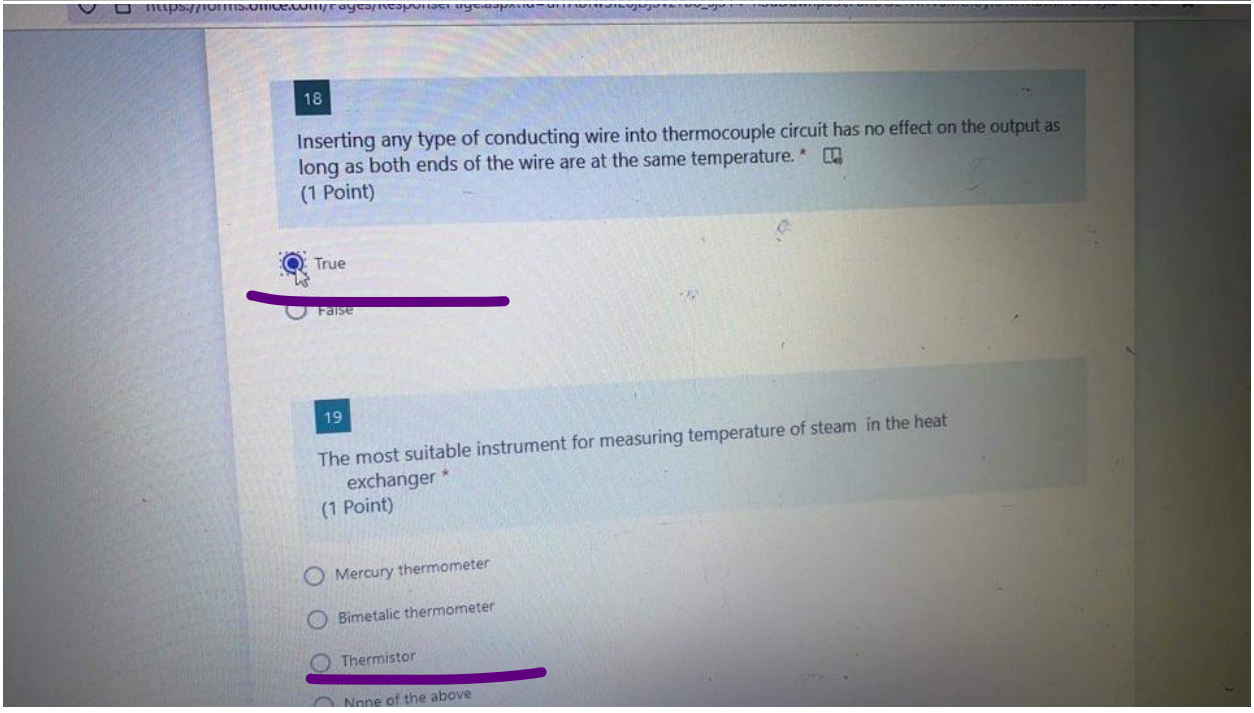
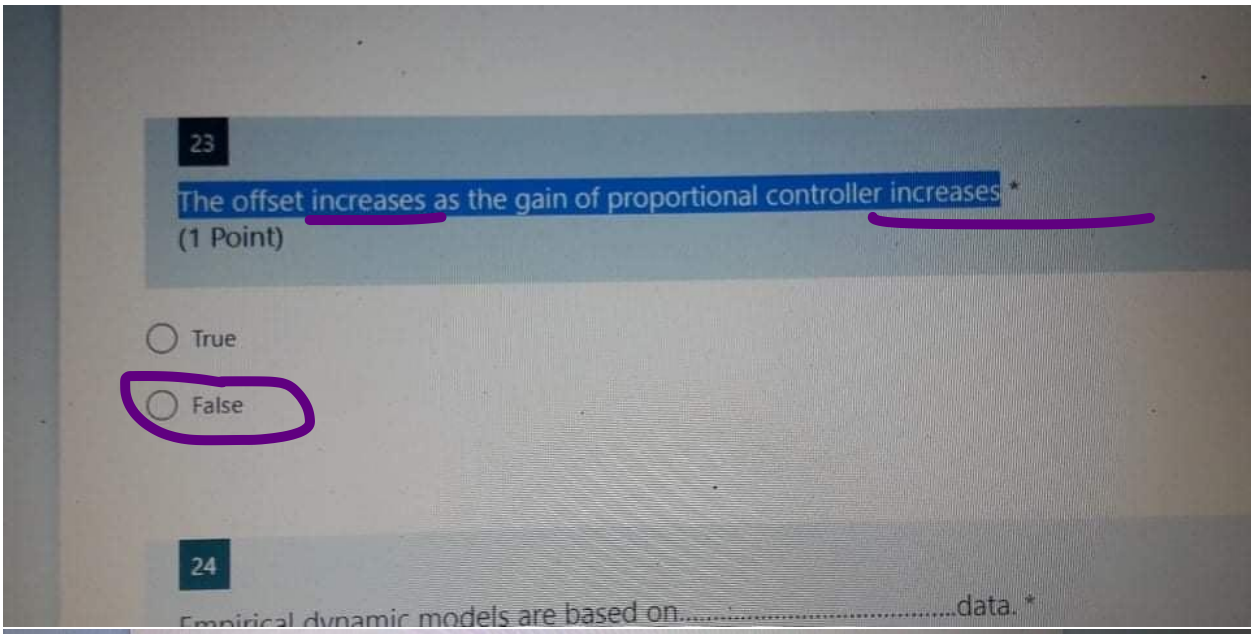
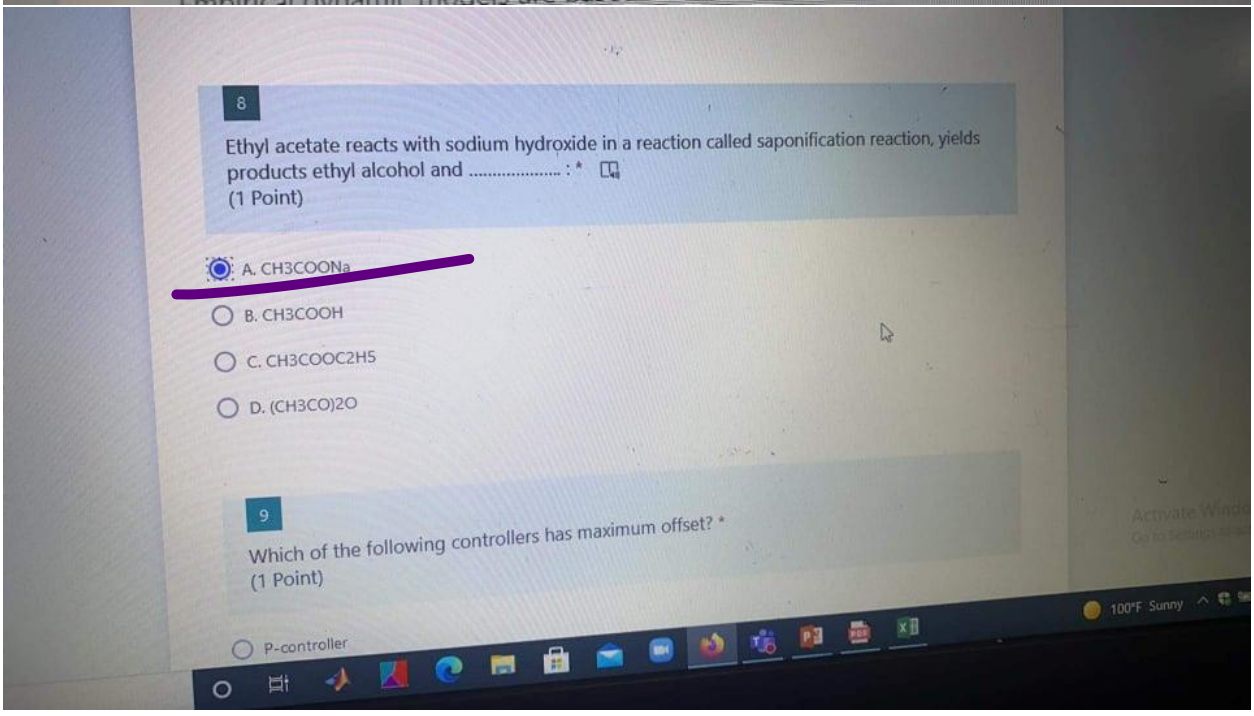
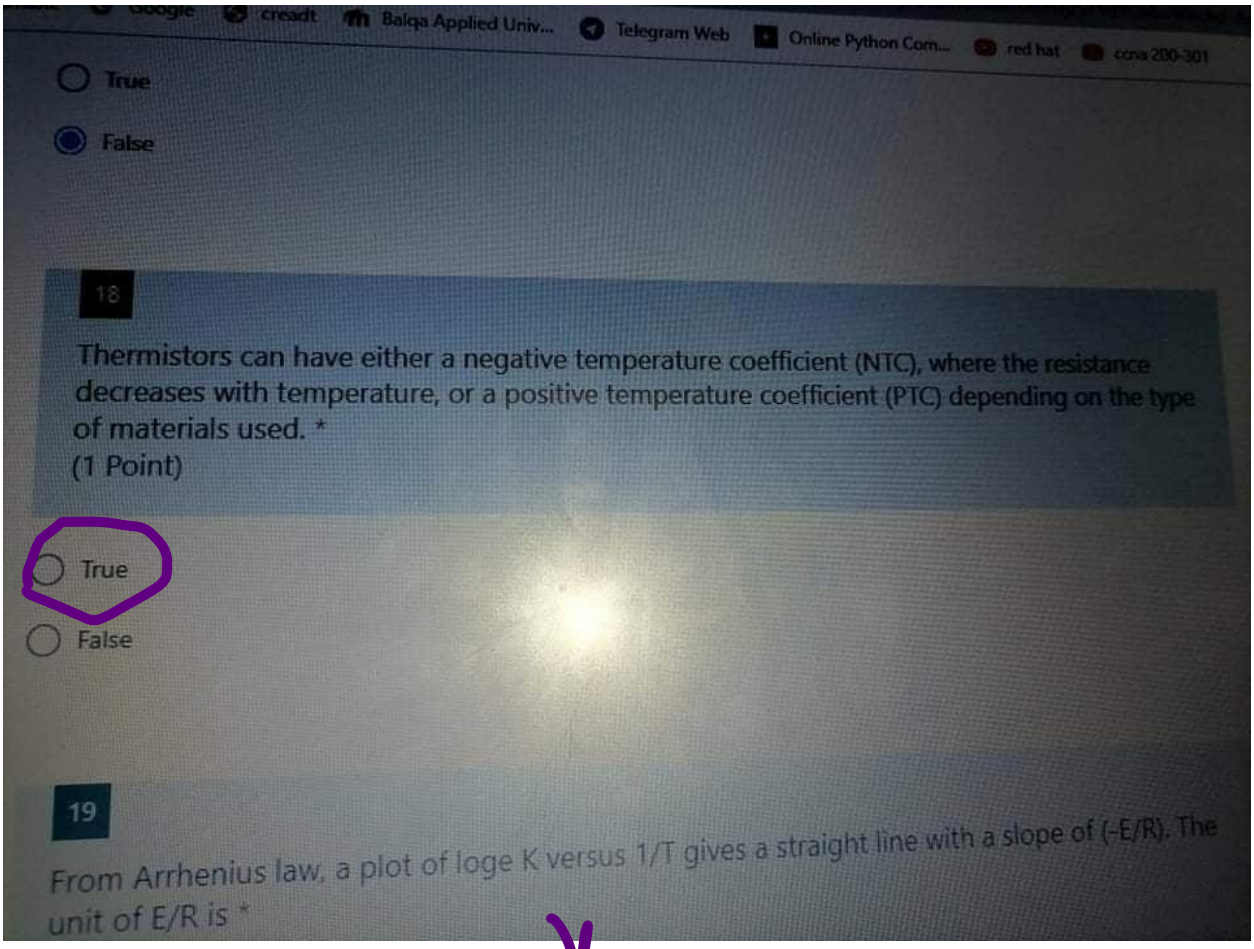
Polymer Records - Google Drive
Arrhenious equation represents
/forms.office.com/Pages/ResponsePage.aspx?id=ul1ABTw3IE6jDj5vz1B8_sj314-TI3dDuwhpo5c7brlUOE1NNVdMUlUyRFM
2
The calibration data of a thermocouple are given below.The hot junction of the thermocou
is placed in a bath at 80°C, while its cold junction is at 20°C. What is the (mv) of thermocou
*
(1 Point)
Hot junction temperature (°C) 0 20 40 60 80 100
Thermo emf (mv) 0.00 0.80 1.61 2.43 3.26 4.10
4.06
3.26
2.46
1.61
3
From Arrhenius law, a plot of loge K versus 1/T gives a straight line with a slope of (-E/R). The unit of E/R is *
(1 Point)
kcal
kcal/K
K


21
In level control experiment, the final control element is *
(2 Points)
Level sensor
Pump
Comparator
Set point
22


18
Inserting any type of conducting wire into thermocouple circuit has no effect on the output as long as both ends of the wire are at the same temperature. *
(1 Point)
True
False
19
The most suitable instrument for measuring temperature of steam in the heat exchanger *
(1 Point)
Mercury thermometer
Bimetalic thermometer
Thermistor
None of the above


23
The offset increases as the gain of proportional controller increases *
(1 Point)
True
False
24
Empirical dynamic models are based on.....data. *


8
Ethyl acetate reacts with sodium hydroxide in a reaction called saponification reaction, yields products ethyl alcohol and ..... : *
(1 Point)
A. CH3COONa
B. CH3COOH
C. CH3COOC2H5
D. (CH3CO)2O
9
Which of the following controllers has maximum offset? *
(1 Point)
P-controller
100°F Sunny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Balqa Applied Univ...
Telegram Web
Online Python Com...
red hat
ccna 200-301
True
False
18
Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *
(1 Point)
True
False
19
From Arrhenius law, a plot of loge K versus 1/T gives a straight line with a slope of (-E/R). The unit of E/R is *
K

Maram hijazi 0147488

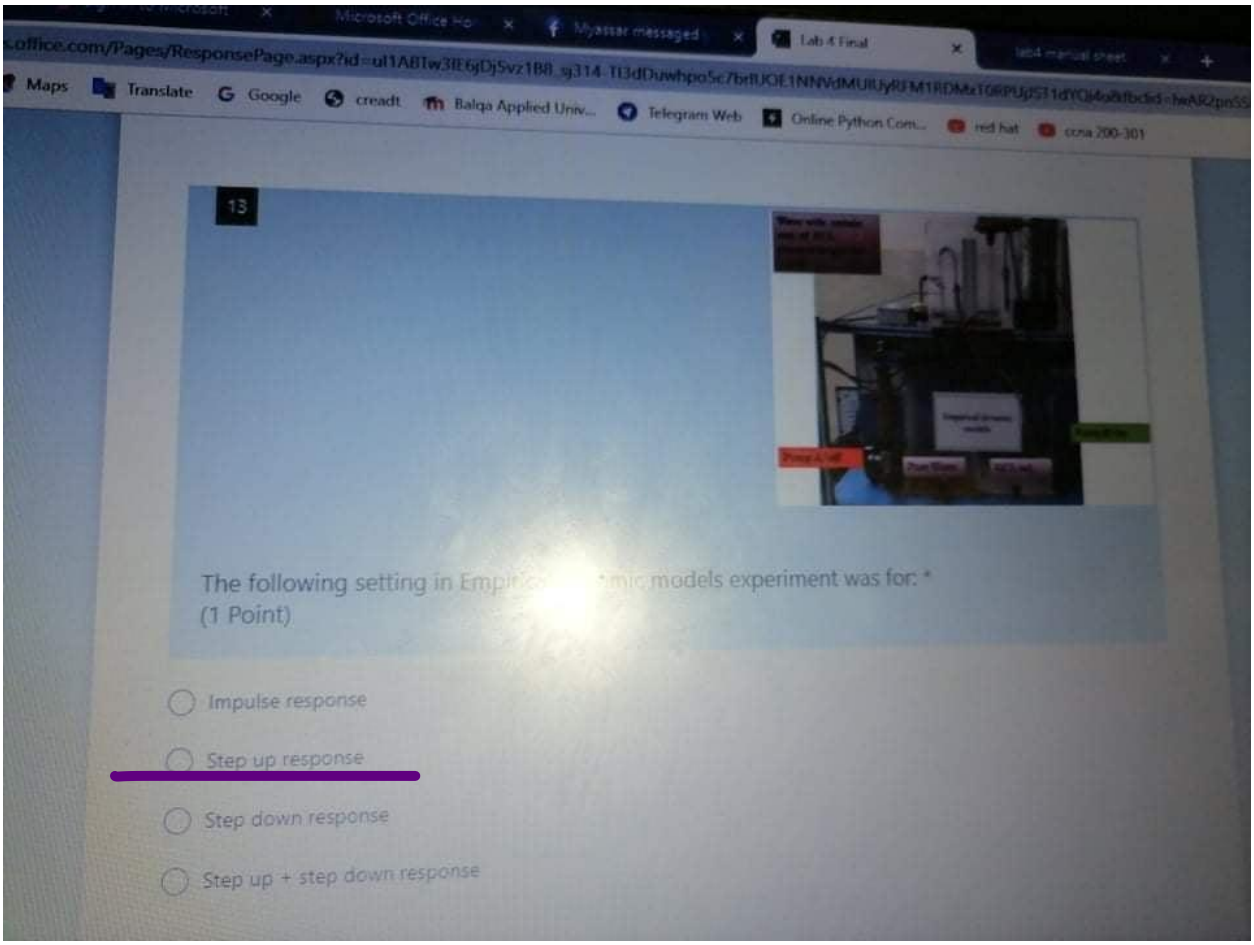
2

To generate empirical models, one of the step test procedure is carried out the process with closed loop *
(1 Point)

- ○ True
- ○ False

3

The offset increases as the gain of proportional controller increases *
(1 Point)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13
The following setting in Empir mic models experiment was for: *
(1 Point)
Impulse response
Step up response
Step down response
Step up + step down response

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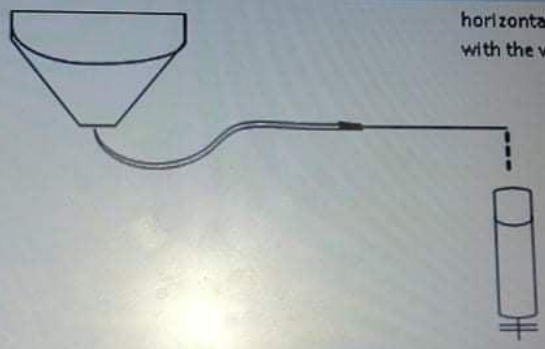
10

The following experimental setup in Hydraulic Analog experiment was for the _____ *

(2 Points)

A



horizontal capillary should be level with the vertex of the funnel

- First order reversible reaction
- First order series reaction
- Reaction order n<1
- Reaction order n>1

25

The Full Experiment was " *

(2 Points)

- Level Control
- CSTR Reactor
- Batch Reactor
- Hydraulic Analogue

21

In temperature measurement experiment ,when take the reading of the voltage for the series connection , the voltage value must be divided by ------ to have the temperature reading: *

(1 Point)

- 40
- 1
- 2
- 4

22

Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature *

(1 Point)

- Increase of pressure
- Increase of thermal conductivity
- Volumetric expansion

21

In temperature measurement experiment ,when take the reading of the voltage for the series connection , the voltage value must be divided by ------ to have the temperature reading: *

(1 Point)

- 40
- 1
- 2
- 4

22

Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature *

(1 Point)

- Increase of pressure
- Increase of thermal conductivity
- Volumetric expansion

A+B

None of the above

25

The Full Experiment was " *
(2 Points)

Level Control

CSTR Reactor

Batch Reactor

Hydraulic Analogue

26

29

In temperature measurement experiment ,when take the reading of the voltage for the series connection , the voltage value must be divided by ----- to have the temperature reading. *
(1 Point)

40

1

2

4

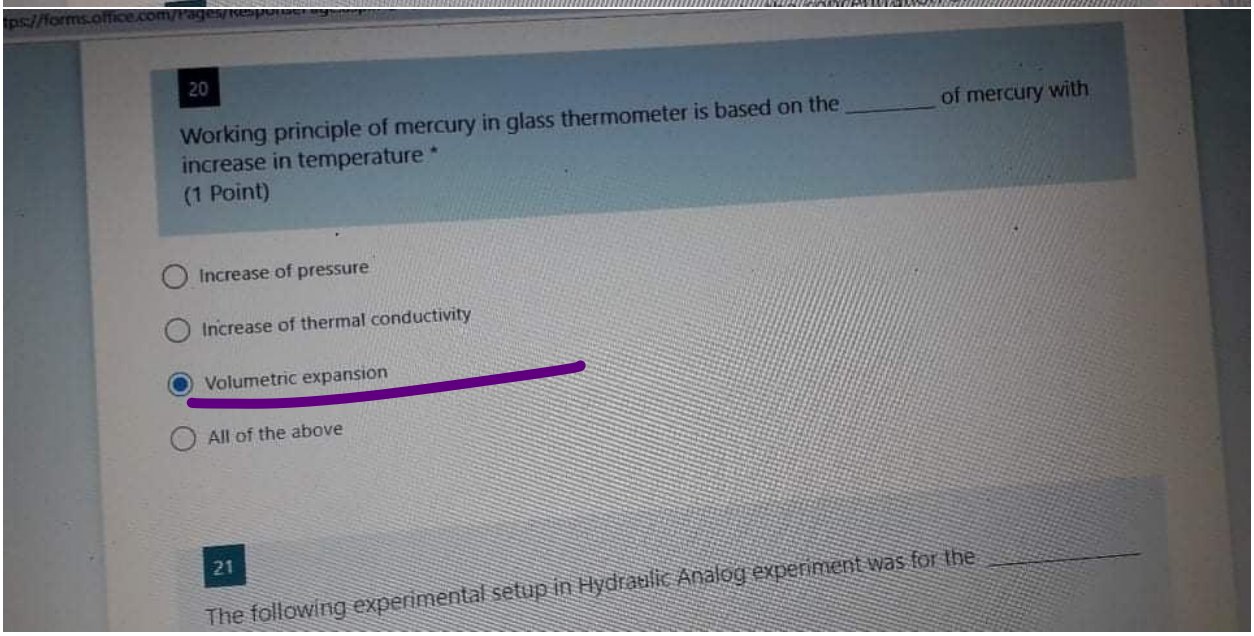
concentration of **NaOH** and

29

In temperature measurement experiment ,when take the reading of the voltage for the series connection , the voltage value must be divided by ----- to have the temperature reading: *

(1 Point)

- 40
- 1
- 2
- 4



...concentration of NaOH and

20

Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature *

(1 Point)

- Increase of pressure
- Increase of thermal conductivity
- Volumetric expansion
- All of the above

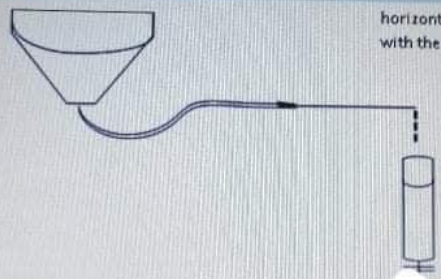
21

The following experimental setup in Hydraulic Analog experiment was for the _____

The following experimental setup in Hydraulic Analog experiment was for the _____ *

(2 Points)

A



horizontal capillary should be level with the vertex of the funnel

- First order reversible reaction
- First order series reaction
- Reaction order n<1
- Reaction order n>1

28

Thermistors can have either a negative temperature coefficient (NTC), where the resistance decreases with temperature, or a positive temperature coefficient (PTC) depending on the type of materials used. *

(1 Point)

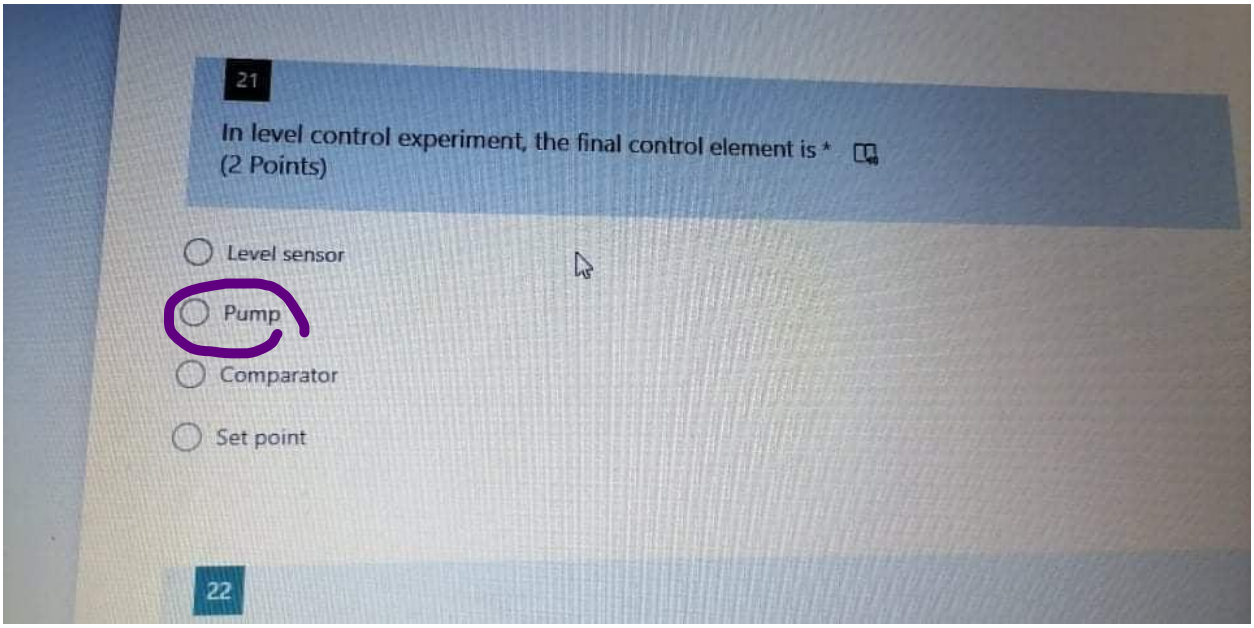
- True
- False

29

Higher free energy of activation of a chemical reaction (at a given temperature) implies higher rate of reaction *

(1 Point)

- False


21
In level control experiment, the final control element is *
(2 Points)
Level sensor
Pump
Comparator
Set point
22