Unit 11 - Week 10

Course outline

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Week 10

- Time- resolved Fluorescence Spectroscopy
- Quiz : Assignment 10
- Feedback Form

Week 11

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Download Videos (mp4,flv,3gp,mp3)

Lecture Slides

Assignment 10

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-09, 23:59 IST.

1) Fluorescence decay is governed by _____ law of kinetics: *1 point*

- Second order
- First order
- Third order
- Zeroth order

No, the answer is incorrect.
Score: 0
Accepted Answers:
First order

2) Fluorescence lifetime is given by: *1 point*

- $\tau = t\ ln\frac{I(t)}{I(0)}$
- $\tau = t\ ln\frac{I(0)}{I(t)}$
- $\tau = t\ \frac{I(t)}{I(0)}$
- $t = \tau\ ln\frac{I(0)}{I(t)}$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$t = \tau\ ln\frac{I(0)}{I(t)}$

3) Fluorescence lifetime doesn't depend on: *1 point*

- Temperature
- Fluorophore structure
- Presence of fluorescence quencher
- Fluorophore concentration

No, the answer is incorrect.
Score: 0
Accepted Answers:
Fluorophore concentration

4) In frequency modulated lifetime measurement, relation between phase shift and fluorescence lifetime is given by: *1 point*

- $cot\phi = \omega\tau$
- $tan\phi = \omega\tau$
- $tan\phi = \omega/\tau$
- $cos\phi = \omega\tau$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$tan\phi = \omega\tau$

5) Time resolved measurement performed in the frequency domain gives information about: *1 point*

- Intensity decay of sample
- Lifetime decay of sample
- direct information on the shape of the fluorescence decay
- Stern Volmer constant

No, the answer is incorrect.
Score: 0
Accepted Answers:
Intensity decay of sample

6) Samples with multiple fluorophore shows: *1 point*

- Single exponential decay with steep decay
- Single life time
- Single exponential decay with delayed decay
- Multi exponential decay

No, the answer is incorrect.
Score: 0
Accepted Answers:
Multi exponential decay

7) Which of the following is not true about lifetime measurement: *1 point*

- Shows how each of the fluorophore is affected by interaction due to other fluorophore
- It cannot distinguish between static and dynamic quenching
- Resonance energy transfer can be studied
- It can be used for cellular imaging

No, the answer is incorrect.
Score: 0
Accepted Answers:
It cannot distinguish between static and dynamic quenching

8) What is the effect of FRET on the fluorescence life time of donor: *1 point*

- It decreases
- Shows no change
- It increases
- It can increase or decrease depending on Forster distance

No, the answer is incorrect.
Score: 0
Accepted Answers:
It decreases

9) Upon increasing the polarity of solvent, fluorescence lifetime of donor: *1 point*

- Decreases
- Increases
- No significant effect
- It can increase or decrease

No, the answer is incorrect.
Score: 0
Accepted Answers:
Decreases

10) Which process(es) takes place when an isolated molecule is placed in gas phase: *1 point*

I. Internal conversion

II. Excited State Reaction

III. Energy Transfer

IV. Intersystem crossing

- I, III and IV
- I, II and IV
- I and IV
- I, II, III and IV

No, the answer is incorrect.
Score: 0
Accepted Answers:
I and IV