

Topic:- BIOCHEM PHD S2

1) Which is correct for yeast two-hybrid system:

[Question ID = 2886]

1. GAL4 activation domain and DNA binding domain interact spontaneously [Option ID = 11538]
2. GAL4 activation domain and DNA binding domain interact only with help of other interacting proteins [Option ID = 11539]
3. GAL4 activation domain and DNA binding domain interact only if the two interacting partners are less than 50kDa [Option ID = 11540]
4. GAL4 activation domain and DNA binding domain cannot be used unless modified by mutagenesis [Option ID = 11541]

Correct Answer :-

- GAL4 activation domain and DNA binding domain interact only with help of other interacting proteins [Option ID = 11539]

2) Which is true for rate zonal centrifugation:

[Question ID = 2887]

1. The density of sample is greater than the density of the gradient [Option ID = 11542]
2. The density of gradient is greater than the density of the sample [Option ID = 11543]
3. The time of run does not matter [Option ID = 11544]
4. The amount of sample is crucial [Option ID = 11545]

Correct Answer :-

- The density of sample is greater than the density of the gradient [Option ID = 11542]

3) A study was conducted to compare the proteome of normal individuals and cancer patients to identify new biomarkers for cancer. The study employed the use of 2D-DIGE by labeling the normal samples with Cy3 and cancer patient samples with Cy5. The Cy2 labeling was also employed in the experiment because:

[Question ID = 2888]

1. It can act as an internal standard for accurate normalization of all protein spots [Option ID = 11546]
2. It will help in uniform labeling of the proteins from the cancer patient samples [Option ID = 11547]
3. Using three different colours will give rise to better analysis of the spots [Option ID = 11548]
4. There is no use of Cy2 labeling. The experiment could have been performed the same way with only two tags. [Option ID = 11549]

Correct Answer :-

- It can act as an internal standard for accurate normalization of all protein spots [Option ID = 11546]

4) A mandatory requirement in FRET studies is :

[Question ID = 2889]

1. The excitation wavelength of the acceptor should overlap with the emission wavelength of the donor [Option ID = 11550]
2. The emission wavelength of the acceptor should overlap with the excitation wavelength of the donor [Option ID = 11551]
3. The excitation wavelength of the acceptor should overlap with the excitation wavelength of the donor [Option ID = 11552]
4. The emission wavelength of the acceptor should overlap with the emission wavelength of the donor [Option ID = 11553]

Correct Answer :-

- The excitation wavelength of the acceptor should overlap with the emission wavelength of the donor [Option ID = 11550]

5) If a protein is having a pI 9, which of the following combinations of buffer and ion exchanger is correct for the purification of active protein?

[Question ID = 2890]

1. pH 8.0, anion exchanger [Option ID = 11554]
2. pH 6.0, cation exchanger [Option ID = 11555]
3. pH 2.0, anion exchanger [Option ID = 11556]
4. pH 4.0, anion exchanger [Option ID = 11557]

Correct Answer :-

- pH 6.0, cation exchanger [Option ID = 11555]

6) Arrange the following sequence of protein trafficking in the correct order?

1. Protein synthesis in ER
2. Export of protein from ER to Golgi
3. Quality control of the proteins
4. O-linked glycosylation of proteins
5. Sorting of ER resident proteins

Choose the correct answer from the options given below:

[Question ID = 2891]

1. 1, 2, 3, 4, 5

on ID = 115581  
2, 5, -  
on ID = 11559

3. 3, 1, 2, 5, 4

[Option ID = 11560]

4. 1, 3, 2, 4, 5

[Option ID = 11561]

**Correct Answer :-**

- 1, 3, 2, 5, 4

[Option ID = 11559]

**7) The core ingredients of a dissertation are:**

**[Question ID = 2892]**

1. Introduction; Data collection; Data analysis; Conclusions and recommendations [Option ID = 11562]
2. Executive summary; Literature review; Data gathered; Conclusions; Bibliography [Option ID = 11563]
3. Introduction; Literature review; Research methods; Results; Discussion; Conclusion, Bibliography [Option ID = 11564]
4. Research plan; Research data; Analysis; References [Option ID = 11565]

**Correct Answer :-**

- Introduction; Literature review; Research methods; Results; Discussion; Conclusion, Bibliography [Option ID = 11564]

**8) Which is true for ion exchange chromatography:**

**[Question ID = 2893]**

1. Length of the column affects the binding of proteins [Option ID = 11566]
2. Presence of sugar in the sample affects the binding of proteins to the column [Option ID = 11567]
3. Presence of salt in the sample affects the binding of proteins to the column [Option ID = 11568]
4. Sample volume affects the resolution of separation of proteins [Option ID = 11569]

**Correct Answer :-**

- Presence of salt in the sample affects the binding of proteins to the column [Option ID = 11568]

**9) During the purification of an enzyme from a liver tissue, five steps of purification were performed. During purification, the activity of the enzyme was equal to the crude homogenate. However, after the fifth step when the enzyme was highly pure, the activity of the enzyme increased by 4 fold. What could be the possible explanation for this observation?**

**[Question ID = 2894]**

1. The fifth step of purification led to co-purification of an activator of the enzyme. [Option ID = 11570]
2. The fifth step of purification led to removal of an inhibitor of the enzyme. [Option ID = 11571]
3. The fifth step of purification increased the  $K_m$  of protein [Option ID = 11572]
4. The assay was incorrect [Option ID = 11573]

**Correct Answer :-**

- The fifth step of purification led to removal of an inhibitor of the enzyme. [Option ID = 11571]

**10) During plasmid DNA preparation by alkaline lysis method, use of potassium acetate is preferred over sodium acetate. The reason is:**

**[Question ID = 2895]**

1. It denatures chromosomal DNA [Option ID = 11574]
2. It facilitates removal of SDS [Option ID = 11575]
3. It facilitates precipitation of plasmid DNA [Option ID = 11576]
4. It is cheaper than sodium acetate [Option ID = 11577]

**Correct Answer :-**

- It facilitates removal of SDS [Option ID = 11575]

**11) A researcher was trying to amplify a 1 kb DNA fragment from the genomic DNA of *Thermus aquaticus*. However, analysis of PCR on agarose gel revealed the presence of 2 non-specific DNA bands (at 400 and 500 bp) other than the band at expected size. From the following, what should be the suitable strategy to reduce the non-specific amplification?**

**[Question ID = 2896]**

1. Increasing the denaturation temperature from 94°C to 96°C  
[Option ID = 11578]
2. Increasing the elongation temperature from 68°C to 72°C  
[Option ID = 11579]
3. Increasing the elongation time from 30 secs to 40 secs  
[Option ID = 11580]
4. Increasing the annealing temperature from 50°C to 55°C

[Option ID = 11581]

**Correct Answer :-**

12) A TLC run of rat liver phospholipids is sprayed with ninhydrin, and the colour is allowed to develop. Which phospholipids can be detected in this way?

[Question ID = 2897]

1. DP PC [Option ID = 11582]
2. DS PC [Option ID = 11583]
3. PS [Option ID = 11584]
4. Lysolecithin [Option ID = 11585]

Correct Answer :-

- PS [Option ID = 11584]

13) What would happen to red blood cells if the haem group were removed from haemoglobin?

[Question ID = 2898]

1. Red blood cells would not be able to bind oxygen [Option ID = 11586]
2. Red blood cells would not be able to reproduce [Option ID = 11587]
3. White blood cells would not be able to reproduce [Option ID = 11588]
4. Blood clot formation would be inhibited [Option ID = 11589]

Correct Answer :-

- Red blood cells would not be able to bind oxygen [Option ID = 11586]

14) Is there a difference between oncogenes and tumor suppressor genes?

[Question ID = 2899]

1. Yes, oncogenes prevent cancer from forming unless they are mutated to become proto-oncogenes, whereas tumor suppressor genes stimulate the formation of cancer even in the absence of mutation  
[Option ID = 11590]
2. No, oncogenes and tumor suppressor genes both stimulate the development of cancer, even in the absence of their becoming mutated  
[Option ID = 11591]
3. Yes, oncogenes are mutated versions of genes that promote abnormal cell division (such as *ras* and *myc*), whereas tumor suppressor genes normally hold cell division in check when it is not appropriate (such as *Rb* and *p53*)  
[Option ID = 11592]
4. Yes, oncogenes are genes that can cause cancer when they become mutated to become proto-oncogenes, whereas tumor suppressor genes play no role in cancer  
[Option ID = 11593]

Correct Answer :-

- Yes, oncogenes are mutated versions of genes that promote abnormal cell division (such as *ras* and *myc*), whereas tumor suppressor genes normally hold cell division in check when it is not appropriate (such as *Rb* and *p53*)  
[Option ID = 11592]

15) The putative interaction between two proteins was identified by yeast two hybrid assays. Which of the following technique cannot be employed to further confirm the interaction?

[Question ID = 2900]

1. Pull Down Assay [Option ID = 11594]
2. Fluorescence resonance energy transfer analysis [Option ID = 11595]
3. Protein Microarray [Option ID = 11596]
4. Electrophoretic mobility shift assay [Option ID = 11597]

Correct Answer :-

- Electrophoretic mobility shift assay [Option ID = 11597]

16) The  $A_{260}/A_{280}$  ratio of a DNA sample was observed to be 1.2. An increase in this ratio can be obtained by subjecting the DNA sample to

[Question ID = 2901]

1. A) Phenol extraction  
[Option ID = 11598]
2. B) TCA treatment  
[Option ID = 11599]
3. C) Both A and B  
[Option ID = 11600]
4. D) Saline treatment  
[Option ID = 11601]

Correct Answer :-

17) In an enzyme-catalyzed reaction, how does  $V_{max}$  and  $K_m$  change if the enzyme concentration is doubled while keeping all the reaction conditions unchanged, ensuring that substrate is not limiting?

[Question ID = 2902]

1.  $V_{max}$  is doubled, while  $K_m$  is half

[Option ID = 11602]

2.  $V_{max}$  is unchanged, while  $K_m$  is doubled

[Option ID = 11603]

3.  $V_{max}$  is doubled, while  $K_m$  is unchanged

[Option ID = 11604]

4. Both  $V_{max}$  and  $K_m$  are doubled

[Option ID = 11605]

Correct Answer :-

•  $V_{max}$  is doubled, while  $K_m$  is unchanged

[Option ID = 11604]

18) What is the isoelectric point (pI) of the amino acid lysine with  $pK_{a1} = 2.2$ ,  $pK_{a2} = 9.0$  and  $pK_{a3} = 10.8$

[Question ID = 2903]

1. 7.3 [Option ID = 11606]

2. 9.9 [Option ID = 11607]

3. 5.6 [Option ID = 11608]

4. 9.0 [Option ID = 11609]

Correct Answer :-

• 9.9 [Option ID = 11607]

19) Which of the following changes in the gene encoding a lysosomal protein is not expected to impair the translocation of the protein across the ER membrane?

[Question ID = 2904]

1. The deletion of the nucleotide specifying the 25 amino acids following the translation initiation codon [Option ID = 11610]

2. The conversion of the sole lysine codon after the translation initiation codon to an arginine codon [Option ID = 11611]

3. The conversion of the sole lysine codon after the translation initiation codon to an aspartic acid codon [Option ID = 11612]

4. The conversion of the two leucine codons and one phenylalanine codon near the translation initiation codon to an isoleucine codon, an aspartic acid codon and a glutamic acid codon, respectively [Option ID = 11613]

Correct Answer :-

• The conversion of the sole lysine codon after the translation initiation codon to an arginine codon [Option ID = 11611]

20) Catabolism of which of the following amino acids requires the direct involvement of  $O_2$ ?

[Question ID = 2905]

1. Histidine [Option ID = 11614]

2. Phenylalanine [Option ID = 11615]

3. Isoleucine [Option ID = 11616]

4. Glutamine [Option ID = 11617]

Correct Answer :-

• Phenylalanine [Option ID = 11615]

21) Which of the following statement about protein structures and functions is likely to be False?

[Question ID = 2906]

1. Two entirely different protein sequences from different evolutionary origins may fold into a similar structure [Option ID = 11618]

2. Two proteins that share a significant degree of sequence similarity either with each other or with a third sequence also share an evolutionary origin and should share some structural features also [Option ID = 11619]

3. Ancient gene for a given protein structure may diverge in different species while maintaining the same basic structural features [Option ID = 11620]

4. Proteins that are members of the same family are likely to have same three-dimensional structures but different functions [Option ID = 11621]

Correct Answer :-

• Proteins that are members of the same family are likely to have same three-dimensional structures but different functions [Option ID = 11621]

22) Which of these are employed for preparing IEF columns?

[Question ID = 2907]

1. Ampholytes [Option ID = 11622]

2. Trypsin [Option ID = 11623]

3. SDS [Option ID = 11624]

4. Electrolytes [Option ID = 11625]

Correct Answer :-

student is carrying out PCR-based site directed mutagenesis of a 1 kb gene that is cloned in a cloning vector plasmid. The total size of this plasmid is 8kb. The student had repeatedly tried to perform the mutagenesis experiment, however, there is no success. Which option of the following can be tried which will help in obtaining the mutants.

[Question ID = 2908]

1. The gene can be cloned into a much smaller size plasmid [Option ID = 11626]
2. The size of the primers may be decreased [Option ID = 11627]
3. The size of the primers may be increased [Option ID = 11628]
4. The gene can be cloned into a larger size plasmid [Option ID = 11629]

Correct Answer :-

- The gene can be cloned into a much smaller size plasmid [Option ID = 11626]

24) Which of the following is NOT true about e-journals ?

[Question ID = 2909]

1. They are distributed through digital methods [Option ID = 11630]
2. They also have editors or editorial boards [Option ID = 11631]
3. They are publications of serial nature [Option ID = 11632]
4. They are always free [Option ID = 11633]

Correct Answer :-

- They are always free [Option ID = 11633]

25) A pure insulin preparation is subjected to reducing SDS-PAGE. How many bands will be seen upon staining the gel?

[Question ID = 2910]

1. One [Option ID = 11634]
2. Two [Option ID = 11635]
3. Three [Option ID = 11636]
4. Four [Option ID = 11637]

Correct Answer :-

- Two [Option ID = 11635]

26) One liter of 0.5M acetate buffer (pH=5.0) has been prepared by you. The dissociation constant of acetic acid is  $1.7 \times 10^{-5}$  M. The concentration of acetate ion in the buffer would be

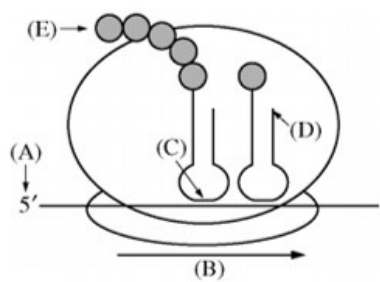
[Question ID = 2911]

1. 0.25 M [Option ID = 11638]
2. 0.315 M [Option ID = 11639]
3. 0.1 M [Option ID = 11640]
4. 0.415 M [Option ID = 11641]

Correct Answer :-

- 0.315 M [Option ID = 11639]

27) The diagram below depicts an Eukaryotic translation complex during the elongation stage. Which of the following labels is INCORRECT?



[Question ID = 2912]

1. Location of the mRNA cap structure [Option ID = 11642]
2. Direction of ribosome movement [Option ID = 11643]
3. Anticodon of a tRNA molecule [Option ID = 11644]
4. Carboxyl terminus of the growing peptide chain [Option ID = 11645]

Correct Answer :-

- Carboxyl terminus of the growing peptide chain [Option ID = 11645]

28) Electrophoresis of histones and myoglobin under non-denaturing conditions (pH = 7.0) results in :

[Question ID = 2913]

1. Both proteins migrate to the anode [Option ID = 11646]
2. Histones migrate to the anode and myoglobin migrates to the cathode [Option ID = 11647]
3. Histones migrate to the cathode and myoglobin migrates to the anode [Option ID = 11648]
4. Both proteins migrate to the cathode [Option ID = 11649]

29) A protein undergoes post-translational modifications. In an experiment to identify the nature of modifications, the following experimental results were obtained

- Protein moved more slowly in an SDS PAGE.
- Isoelectric focusing (IEF) showed that there was no change in the pI.
- Mass spectrometric analysis showed that the modification was on serine.
- The modification that the protein undergoes is likely to be

[Question ID = 2914]

- Phosphorylation [Option ID = 11650]
- Glycosylation [Option ID = 11651]
- Ubiquitination [Option ID = 11652]
- ADP-ribosylation [Option ID = 11653]

Correct Answer :-

- Glycosylation [Option ID = 11651]

30) In a practical class, students were demonstrating ATP synthesis in vitro using active mitochondria. Some students added one of the following to their tubes:

- Dinitrophenol (DNP), an uncoupler.
- Mild acidification of the medium.
- Glutiferone, that permeabilizes both the membranes.
- An outer membrane permeable  $H^+$  quencher compound, Elila. In which one of the above, ATP synthesis will be detected?

[Question ID = 2915]

- i [Option ID = 11654]
- ii [Option ID = 11655]
- iii [Option ID = 11656]
- iv [Option ID = 11657]

Correct Answer :-

- ii [Option ID = 11655]

31) Diagnosis of influenza virus infections can be done using some of the following techniques:

- Western blot and Southern blot
- Northern blot and western blot
- ELISA and RT-PCR
- PCR and electron microscopy

Choose the combination of techniques that correctly lists the detection methods :-

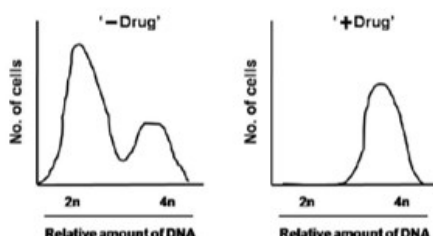
[Question ID = 2916]

- 1 and 2 only [Option ID = 11658]
- 3 and 4 only [Option ID = 11659]
- 2 and 3 only [Option ID = 11660]
- 1 and 4 only [Option ID = 11661]

Correct Answer :-

- 2 and 3 only [Option ID = 11660]

32) To assess the impact of a newly identified drug when added to a culture of subconfluent HeLa cells, a researcher analyzes the fluorescence activated cell sorting (FACS) profile of untreated (- Drug) versus treated (+ Drug) cells.



Based on the FACS profile shown above, this drug inhibits

[Question ID = 2917]

- $G_1$  phase of the cell cycle [Option ID = 11662]
- S phase of the cell cycle [Option ID = 11663]
- $G_2$  / M phase of the cell cycle [Option ID = 11664]
- $G_0$  phase of cell cycle [Option ID = 11665]

Correct Answer :-

- $G_2$  / M phase of the cell cycle [Option ID = 11664]

33) The Nobel Prize 2019 in Physiology or Medicine was given for which of the following contributions

[Question ID = 2918]

- For mechanistic studies of DNA repair [Option ID = 11666]

Correct Answer :-

- For discoveries of how cells sense and adapt to oxygen availability [Option ID = 11669]

**34) A researcher wants to clone a PCR amplified insert (1 kb) into a PCR amplified vector backbone (4 kb) using blunt end ligation. The PCR was performed with Pfu DNA polymerase to reduce error rate. For successful cloning, the PCR amplified insert should be treated with which of the following enzymes before setting up the ligation reaction?**

[Question ID = 2919]

- T4 DNA polymerase [Option ID = 11670]
- Klenow fragment exo- [Option ID = 11671]
- T4 polynucleotide kinase [Option ID = 11672]
- Terminal transferase [Option ID = 11673]

Correct Answer :-

- T4 polynucleotide kinase [Option ID = 11672]

**35) When the resting membrane potential becomes less negative, the phenomenon is known as:**

[Question ID = 2920]

- Hyperpolarization of the membrane [Option ID = 11674]
- Depolarization of the membrane [Option ID = 11675]
- Semi-polarization of the membrane [Option ID = 11676]
- Repolarization of the membrane [Option ID = 11677]

Correct Answer :-

- Depolarization of the membrane [Option ID = 11675]

**36) Universally accepted structure of DNA as a double helix was based on experiments related to:**

[Question ID = 2921]

- Computer modeling [Option ID = 11678]
- X-ray crystallography [Option ID = 11679]
- NMR techniques [Option ID = 11680]
- Organic synthesis [Option ID = 11681]

Correct Answer :-

- X-ray crystallography [Option ID = 11679]

**37) The disease hemophilia is manifested because of the deficiency of:**

[Question ID = 2922]

- Enzymes [Option ID = 11682]
- Glycolipids [Option ID = 11683]
- Divalent metal ions [Option ID = 11684]
- Transfer RNAs [Option ID = 11685]

Correct Answer :-

- Enzymes [Option ID = 11682]

**38) Which one of the following molecules has the highest diffusion coefficient in plasma membrane:**

[Question ID = 2923]

- Band 3 [Option ID = 11686]
- Glycophorin [Option ID = 11687]
- ABC transporters [Option ID = 11688]
- Insulin receptor [Option ID = 11689]

Correct Answer :-

- Glycophorin [Option ID = 11687]

**39) The observation that plasma membrane proteins mix after cell fusion provides evidence for:**

[Question ID = 2924]

- Rotational movement of plasma membrane proteins [Option ID = 11690]
- The bilayer structure of biomolecules [Option ID = 11691]
- The fluid mosaic model [Option ID = 11692]
- Interactions of plasma membrane proteins of two different cell types [Option ID = 11693]

Correct Answer :-

- The fluid mosaic model [Option ID = 11692]

**40) The dolichol pyrophosphoryl oligosaccharide is formed on:**

[Question ID = 2925]

- The ER membrane [Option ID = 11694]
- The trans-Golgi membrane [Option ID = 11695]
- The cis-Golgi membrane [Option ID = 11696]
- Secretory vesicle membrane [Option ID = 11697]



41) Two dimensional gel electrophoresis, is a technique for separating proteins:

[Question ID = 2926]

1. Based on charge [Option ID = 11698]
2. Based on mass [Option ID = 11699]
3. Based on both charge and mass [Option ID = 11700]
4. Based on its pI value [Option ID = 11701]

Correct Answer :-

- Based on both charge and mass [Option ID = 11700]

42) Cellular organelles can easily be separated by:

[Question ID = 2927]

1. Affinity chromatography [Option ID = 11702]
2. Ion exchange chromatography [Option ID = 11703]
3. Density-gradient centrifugation [Option ID = 11704]
4. Equilibrium density-gradient centrifugation [Option ID = 11705]

Correct Answer :-

- Equilibrium density-gradient centrifugation [Option ID = 11705]

43) Fluorescence microscopy is based on the ability of certain molecules to:

[Question ID = 2928]

1. Continuously emit light of a constant wavelength [Option ID = 11706]
2. Absorb light of many different wavelengths [Option ID = 11707]
3. Absorb light of a given wavelength and then emit light of a longer wavelength [Option ID = 11708]
4. Absorb light of a given wavelength and then emit light of a shorter wavelength [Option ID = 11709]

Correct Answer :-

- Absorb light of a given wavelength and then emit light of a longer wavelength [Option ID = 11708]

44) An IgG and an IgM sample (against human red blood cell surface antigen) were treated with  $\beta$ -mercaptoethanol independently and tested for agglutination of human red blood cells with a view to check the hemagglutinating titer of the two samples. Which of the results as below is correct in this context:

[Question ID = 2929]

1. The titre of IgM was found to be drastically decreased in comparison with that of IgG remaining unaltered [Option ID = 11710]
2. The titre of IgG was found to be drastically decreased in comparison to that of IgM [Option ID = 11711]
3. Both IgG and IgM exhibited the same titre [Option ID = 11712]
4.  $\beta$ -mercaptoethanol was unable to craft any chemical change on IgG and IgM [Option ID = 11713]

Correct Answer :-

- The titre of IgM was found to be drastically decreased in comparison with that of IgG remaining unaltered [Option ID = 11710]

45) A lectin can bind to plasma membrane vesicles if it is:

[Question ID = 2930]

1. Right side out [Option ID = 11714]
2. Inside out [Option ID = 11715]
3. Both right side out and inside out [Option ID = 11716]
4. Digested with protease [Option ID = 11717]

Correct Answer :-

- Right side out [Option ID = 11714]

46) What is the activated reactant in the biosynthesis of phosphatidylinositol from inositol?



- ion ID = 29311  
1. Methionine [Option ID = 11718]  
2. diacylglycerol [Option ID = 11719]  
3. Geranyl pyrophosphate [Option ID = 11720]  
4. UDP-inositol [Option ID = 11721]

**Correct Answer :-**

- CDP-diacylglycerol [Option ID = 11719]

**47) Which is the best method to determine the phospholipid asymmetry in plasma membrane:**

**[Question ID = 2932]**

1. Electron microscopy [Option ID = 11722]  
2. Mass spectroscopy [Option ID = 11723]  
3. Lectin binding [Option ID = 11724]  
4. TLC [Option ID = 11725]

**Correct Answer :-**

- TLC [Option ID = 11725]

**48) Fluorescence recovery after photobleaching (FRAP) is a powerful technique for calculating:**

**[Question ID = 2933]**

1. The diffusion coefficient of membrane lipids and proteins [Option ID = 11726]  
2. The rate of synthesis of membrane proteins [Option ID = 11727]  
3. The distance between a lipid and a membrane protein [Option ID = 11728]  
4. The extent of signal transduction in membrane upon ligand-receptor interactions [Option ID = 11729]

[Option ID =

**Correct Answer :-**

- The diffusion coefficient of membrane lipids and proteins [Option ID = 11726]

**49) In the patch-clamp technique, ion movement is measured by the:**

**[Question ID = 2934]**

1. Amount of electric current needed to maintain a pre-set membrane potential [Option ID = 11730]  
2. Amount of electric current needed to raise the membrane potential [Option ID = 11731]  
3. Number of action potentials that occur during the experiment [Option ID = 11732]  
4. Number of electrons that move through the ion channel [Option ID = 11733]

**Correct Answer :-**

- Number of electrons that move through the ion channel [Option ID = 11733]

**50) Which of the following is NOT covered under Intellectual Property Rights?**

**[Question ID = 2935]**

1. Copyrights [Option ID = 11734]  
2. Patents [Option ID = 11735]  
3. Trade Marks [Option ID = 11736]  
4. Thesaurus [Option ID = 11737]

**Correct Answer :-**

- Thesaurus [Option ID = 11737]

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