#1-#12 MULT. CHOICE QUESTIONS: CHOOSE THE ONE BEST ANSWER

1. In respiratory epithelial cells, which of the following generates vesicles containing the CFTR that fuse with the plasmamembrane:
a) smooth endoplasmic reticulum
b) rough endoplasmic reticulum
c) endoplasmic reticulum/Golgi intermediate compartment (ERGIC)
d) trans Golgi network (TGN)
e) cis Golgi cisternae

2. The internalization of secreted lysosomal enzyme is an example of:
a) phagocytosis
b) pinocytosis
c) exocytosis
d) ER junction formation at the plasmamembrane
e) receptor-mediated endocytosis

3. Regarding lipid transfer proteins, which of the following is CORRECT:
a) requires ATP to function
b) critical for vesicular lipid trafficking
c) contain transmembrane domains
d) extract lipids from membranes
e) cause closely apposed membranes to fuse

4. Which of the following transports cargo between the membranes of an ER junction:
a) TOM complexes
b) porin complexes
c) lipid transfer proteins
d) SNARE proteins
e) Bridging protein complexes

5. Which of the following is required to insert a protein, whose gene is encoded by nuclear DNA, into the inner mitochondrial membrane:
a) TOM complex
b) small TIM complex
c) large TIM complex
d) SNARE proteins
e) bridging protein complexes

6. Which of the following appears hollow in cross section:
a) an actin filament
b) a keratin filament
c) a lamin filament
d) a laminin molecule
e) a microtubule

7. In a polarized cell located in a simple epithelium, which domain is the site of cell-ECM adhesion:
a) apical
b) lateral
c) basal
d) all of the above
e) none of the above

8. Which type of cell junction would be affected by a mutation in a cadherin-like receptor that causes a skin blistering disease:
a) zonula adherens
b) tight junctions
c) desmosomes
d) all of the above
e) none of the above

9. Hyaluronic acid is a:
a) glycosaminoglycan (GAG)
b) proteoglycan (PG)
c) glycoprotein (GP)
d) all of the above
e) none of the above

10. Regarding elastic fibers, which of the following is CORRECT:
a) part of the ground substance
b) prominent in bone
c) non-distensible
d) all of the above
e) none of the above

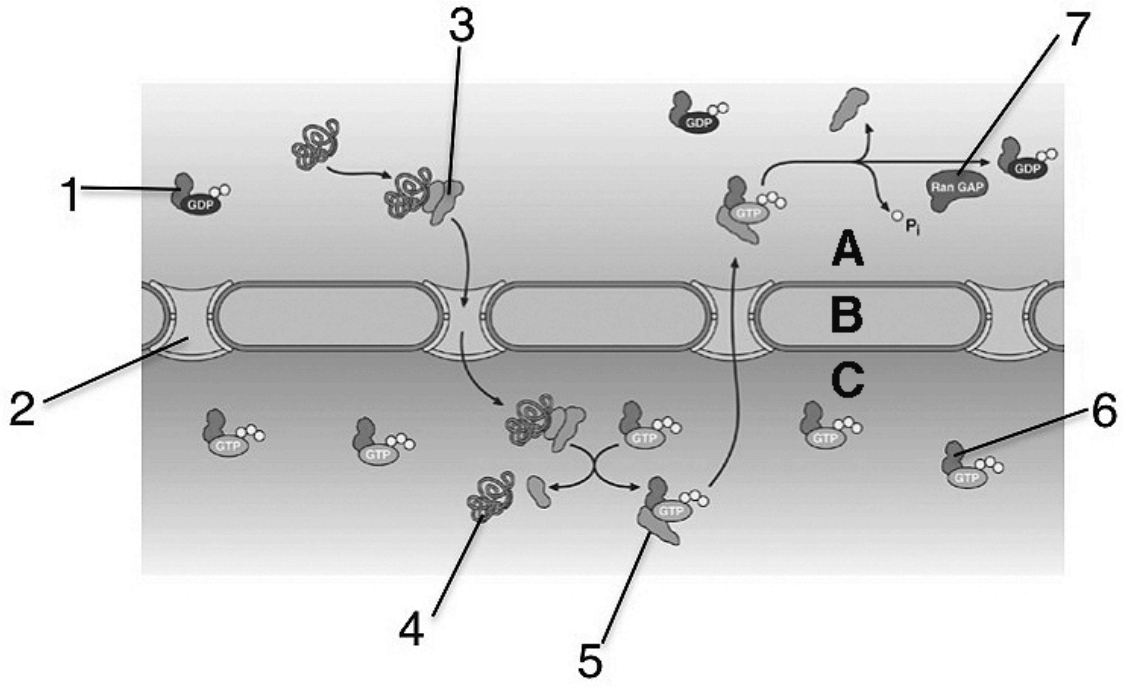
11. Which portion of the basement membrane contains a glycoprotein that binds α6ß4 integrin:
a) lamina lucida
b) lamina densa
c) lamina reticularis
d) all of the above
e) none of the above

12. Integrins function in which of the following?
a) wound healing
b) immune function
c) neuronal pathfinding
d) all of the above
e) none of the above

End of Multiple Choice Questions - Please Proceed to Short Answer Questions

#13-#20 SHORT ANSWER QUESTIONS: ANSWER AS REQUESTED

Fig 01: Nuclear Import & Export



13. In Fig 1, which numbered structure is an importin:
(write the number) _____

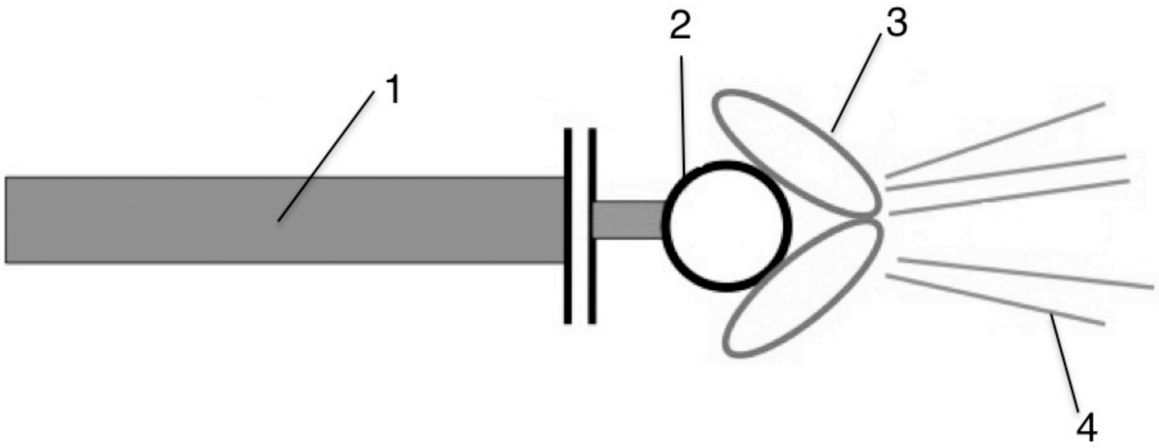
14. In Fig 1, which numbered structure is a GTPase activating protein:
(write the number) _____

15. In Fig 1, which lettered structure represents the subcellular compartment where the protein that helps activate Ran (by exchanging GTP for GDP) is located:
(write the letter) _____

16. In Fig 1, what is the name of structure #2
(Name the structure) _____

End of Questions Related to Fig 1

Fig 02: Cell Junction Multiprotein Complex



17. In Fig 2, what is the name of a protein that would be structure #1 in a tight junction:
(name the protein) _____

18. In Fig 2, what is the name of a protein that would be structure #2 in an adherens junction:
(name the protein) _____

19. In Fig 2, what is the name of a protein that would be structure #4 within a hemidesmosome found in an epithelial cell (please be specific, keeping in mind the tissue type):
(name the protein) _____

20. In Fig 2, which numbered structure contributes to the formation of a channel in a communicating cell junction:
(write the number) _____

End of 02SampleSetQuestions
The midterm examination will consist of questions formulated in the two formats above