**CELL STRUCTURES – PRACTICE Quiz #2**

1. **What best describes the cell below?**



1. **A prokaryotic plant cell**
2. **A eukaryotic plant cell**
3. **A eukaryotic animal cell**
4. **A prokaryotic animal cell**
5. **What best describes the following arrangement of microtubules?**



1. **A "9+0" Arrangement found in a centriole**
2. **A "9+2" Arrangement found in a centriole**
3. **A "9 +0" Arrangement found in the shaft of a sperm's flagellum.**
4. **A "9+2" Arrangement found in the shaft of a cilium.**
5. **The diagram below best represents what structure?**



 **A) Golgi Apparatus**

**B) Rough Endoplasmic Reticulum**

**C) Smooth Endoplasmic Reticulum**

**D) Nuclear Envelope**

1. **Which type of cell would have the highest concentration of Smooth ER?
A) Liver cells**

**B) Pancreatic cells**

**C) Muscle cells**

**D) Red Blood cells**

1. **The organelle below would PRODUCE what substances while running cellular respiration?**



1. **C6H12O6 + 6O2**
2. **H2O + CO2**
3. **ADP + P**
4. **rRNA**
5. **The arrows (lines) by the star in the picture below depict what?**



**NUCLEUS**

1. **Ribosomes**
2. **Lysosomes**
3. **Nucleoli**
4. **Nuclear Pores**
5. **The arrows are pointing to in-folds known as?**



1. **Cristae C) Ribosomes**
2. **Matrix D) Centrioles**
3. **Lysosomes**
4. **Which of the following represents cellular respiration?
A) 6H2O + 6CO2 🡪 C6H12O6 + 6O2**

**B) C6H12O6 + 6O2 🡪 6H2O + 6CO2**

**C) ATP + H2O 🡪 ADP + P + Energy**

**D) H+ + HCO3- 🡪 H2CO3 🡪 H2O + CO2**

1. **The globular structure shown below, would have been manufactured (synthesized) where?**



1. **Rough ER**
2. **Smooth ER**
3. **Golgi Apparatus**
4. **Nucleolus**
5. **Lysosome**

**10. Identify the image below, these chains of dotted structures are all reading mRNA?**



1. **Lysosomes**
2. **Chromosome**
3. **Centriole**
4. **Mitochondria**
5. **Polysome**

**11.What would be the correct order for the synthesis, packaging and transportation of proteins that need to be secreted from a cell?**

**A) DNA 🡪 Ribosome 🡪 Golgi Apparatus 🡪Rough E.R 🡪 Cell Membrane**

**B) mRNA 🡪 Rough E.R 🡪 Cell Membrane 🡪 Golgi Apparatus**

**C) DNA 🡪 mRNA 🡪 Rough E.R 🡪 Golgi Apparatus 🡪 Cell Membrane**

**D) mRNA 🡪 DNA 🡪 Golgi Apparatus 🡪 Rough E.R 🡪 Cell Membrane**

**12. Lysosomes would be very abundant in cells that do a lot of ….
A) Protein synthesis- production of enzymes**

**B) Sterol lipid synthesis – production of cholesterol**

**C) Phagocytosis – Cells that engulf and destroy bacteria**

**D) Cellular activity – Need ATP for movement**

**ANSWER KEY :**

1. **What best describes the cell below?**



1. **A prokaryotic plant cell**
2. **A eukaryotic plant cell**
3. **A eukaryotic animal cell**
4. **A prokaryotic animal cell**
5. **What best describes the following arrangement of microtubules?**



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5. **The diagram below best represents what structure?**



 **A) Golgi Apparatus**

**B) Rough Endoplasmic Reticulum**

**C) Smooth Endoplasmic Reticulum**

**D) Nuclear Envelope**

1. **Which type of cell would have the highest concentration of Smooth ER?**
2. **Liver cells – as those cell produce cholesterol (sterol lipid) plus the liver stores lots of detox enzymes.**

**B) Pancreatic cells**

**C) Muscle cells**

**D) Red Blood cells**

1. **The organelle below would produce what substances?**



1. **C6H12O6 + 6O2**
2. **H2O + CO2 - These are waste products given off during cellular respiration, while the mitochondrion produces ATP.**
3. **ADP + P**
4. **rRNA**
5. **The arrows (lines) in the picture below depict what?**



1. **Ribosomes**
2. **Lysosomes**
3. **Nucleoli**
4. **Nuclear Pores**
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**B) C6H12O6 + 6O2 🡪 6H2O + 6CO2**

**C) ATP + H2O 🡪 ADP + P + Energy**

**D) H+ + HCO3- 🡪 H2CO3 🡪 H2O + CO2**

1. **The globular structure shown below, would have been manufactured (synthesized) where?**



1. **Rough ER**
2. **Smooth ER**
3. **Golgi Apparatus**
4. **Nucleolus – This is a ribosome made of the two ribosomal subunits. These units are formed when rRNA joins with proteins back in the nucleolus**
5. **Lysosome**

**10. Identify the image below, these chains of dotted structures are all reading mRNA?**



1. **Lysosomes**
2. **Chromosome**
3. **Centriole**
4. **Mitochondria**
5. **Polysome – Polyribosome are chains of ribosomes (the dark-staining dots) all translating the same protein built from the same piece or mRNA**

**11.What would be the correct order for the synthesis, packaging and transportation of proteins that need to be secreted from a cell?**

**A) DNA 🡪 Ribosome 🡪 Golgi Apparatus 🡪Rough E.R 🡪 Cell Membrane**

**B) mRNA 🡪 Rough E.R 🡪 Cell Membrane 🡪 Golgi Apparatus**

**C) DNA 🡪 mRNA 🡪 Rough E.R 🡪 Golgi Apparatus 🡪 Cell Membrane**

**D) mRNA 🡪 DNA 🡪 Golgi Apparatus 🡪 Rough E.R 🡪 Cell Membrane**

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