**Comprehension Questions for Biofactsheet 8 – ‘Cell Surface Membrane’**

1 How thick is the cell surface membrane? *(ref. p.1 para. 1)* ………………………………….

2 What is the name for proteins that span the entire width of the membrane? *(ref. p. 1 para 1)*

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Draw a diagram of what is meant by a protein spanning the entire width of the membrane.

3 What 3 types of proteins are found in membranes? *(p.1 para.2 – 5)* ……………………………………

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4 What can the lipids do that give the membrane fluidity? *(p.1 para. 6) ………………………………..*

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5 Name a process that requires membranes to be fluid *(p.1 para.6)* and explain what is meant by this process. ………………………………………………………………………………………………………………………

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6 What 3 things determine the degree of membrane fluidity? *(p.1 para.6)*

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7 What does the interaction between the hydrophobic and hydrophilic regions of a protein do to the membrane? *(p.2 para.6)* . ……………………………………………………………………………………..…......

8 What is the name for proteins that are ‘embedded in’ but do not span the membrane? *(p.2para.6)*

…………………………………………………….. Show this diagrammatically in the box provided.

9 Name an enzyme that is a membrane protein. *(p.2 para.5)* …………………………………………………

10 Write down the definition of diffusion. *(p.2 para.8)* ………………………………………………………………

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11 Write in your own words what you think is meant by the term DYNAMIC EQUILIBRIUM. (note since it is a term that does not just apply to diffusion, make your answer able to be applied to other situations) …………………………………………………………………………………………………………………

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12 List 3 factors that affect the RATE of diffusion *(p.2 para.9)* ……………………………………………………

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13 List the substances stated in the article that are able to cross the membrane by the process of diffusion. …………………………………………………………………………………………………………………………

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14 Define osmosis *(p.2 para 10)* ………………………………………………………………………………………………….

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NOTE: most modern specifications want you to define osmosis in terms of WATER POTENTIAL rather than water concentration but you must be familiar with both! A **high concentration of water molecules** means a dilute solution (watery solution) and we say it has a HIGH WATER POTENTIAL. Conversely a solution that has a **low concentration of water molecules** has much solute but little water so it is a concentrated solution and we say it has a low WATER POTENTIAL. Now rewrite the osmosis definition in terms of water potential.

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15 What mechanism does a cell use to control the amount of water which enters across the plasma membrane? *(p.2 para.10)* …………………………………………………………………………………………