

BLG May 2013

Animal and Plant diversity

Question 1

1.1. E

1.2. E

1.3. D

1.4. C

1.5. A

1.6. D

1.7. D

1.8. D

1.9. A

1.10. D

Question 2

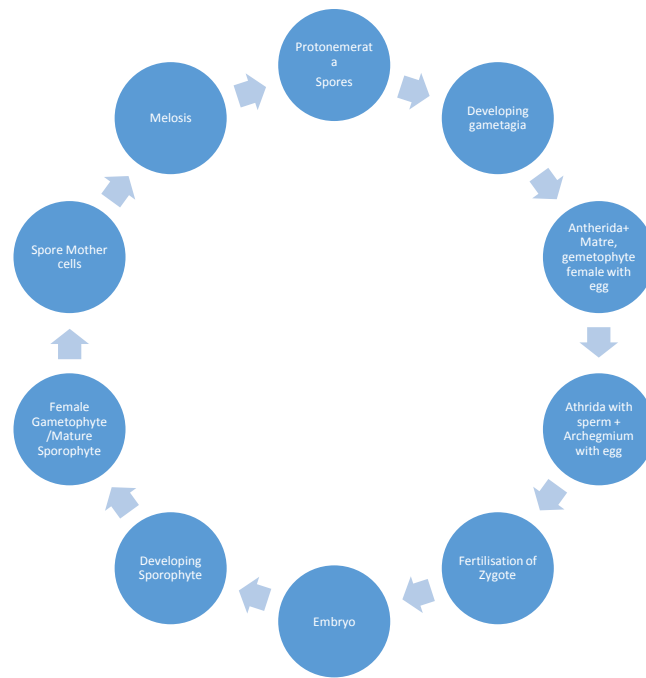
2.1 Differences between monocotyledons and dicotyledons plants

Monocotyledons	Di-cotyledons
1. The seeds have one one cotyledon	The seeds have two cotyledons
2. Leaves usually show parallel venation	Leaves have reticulate venation
3. They have fibroins root systems	They have tap root system
4. The flowers are timorous (they have 3 or multiple petals	The flowers are pentamerous (have 5 or multiple of 5 petals
5. There is no secondary growth	Secondary growth present

2.2

- Prop roots ; it grows above the ground and its an aerial root
- Storage roots; stores food and water or nutrients in the roots
- Strangling Ariel roots; these snake like roots gradually wraps around the host trees and objects. The host trees dies of shading
- Buttress roots; it supports the tall trunks of the same tropical trees
- Pneumatophores; it's produced by the trees that inhabit tidal swamps. It enables the root system to obtain oxygen by projecting above the water's surface

Question 3



Life Cycle of a Moss

Question 4

Characteristics that define land plants

1. Presence of cellulose cell walls
2. Presence of chlorophyll
3. Photosynthesis Autotrophs
4. Being eukaryotic
5. Derision in to shoots and roots

Question 5

- 5.1 Radial Symmetry is a basic body plan in which the organism can be divided into similar halves by passing a plane at any angle along a central axis; examples include starfish, sea anemone and jelly fish
- 5.2 Bilateral Symmetry is the basic body plan in which the left and right sides of the organism can be divided into approximate mirror images of each other along the midline , example include humans, dogs, cats and sharks

Question 6

6.1 a) Testosterone

b) Oestrogen

c) Progesterone

6.2 a) Aldosterone

b) Adrenaline

c) Cortisol

d) Androgens

6.3 a) Thyroid- stimulating Hormone

b) Follicle- stimulating Hormone

c) Luteinizing Hormone

d) Prolactin hormone

e) Growth hormone

Adrenocorticotrophic hormone

6.4 Melatonin

Question 7

- a) Conduction; this is the process of losing heat through physical contact with another object or body
- b) Convection; this is the process of losing heat through the movement of air or water molecules across the skin
- c) Radiation; this is a form of heat loss through infrared rays. It involves transfer of heat from one object to another with no physical contact involved
- d) Evaporation; this is the process of losing heat through the conversion of water to gas

Question 8

Antigens; are foreign particles usually properties which are capable of generating an immune response in the body to produce antibodies. Antigens can be bacteria, viruses, fungi and diseases or infection

Anti-bodies also called immunoglobulin's, Y shaped molecules are proteins manufactured by the body that help to fight against foreign substances called antigens

Question 9

9.1. Distal tubule; it absorbs sodium chloride and other inorganic salts while retaining water

9.2. Collecting duct; they are the main sites of water re-absorption from the glomerular filtrate and controls the final urine concentration according to the body's state of hydration

9.3. Proximal tubule; it regulates the PH of the filtrate by exchanging hydrogen ions in the interstitium for bicarbonate ions in the filtrate . it is also responsible. For secreting organic acids such as creatinine and other bases in to the filtrate

9.4 Descending loop of henle; it consist of two three morphologically and functionally distinct sub segments and participates in trans epithelial transport of urea and water

9.5 Ascending loop of henle ; it carries a transepithelial transport of NaCl and urea in the re- absorptive and or secretory direction