Good Grade

F PLANT SC AND APPLIE D ZOOL
SI ONABANJO UNIVERSITY, AGO-IWOYE
2006 RAIN SEMESTER EXAMINATION
RSE CODE: BIO 208
URSE TITLE: GENERAL PHYSIOLOGY
STRUCTION: ANSWER ALL QUESTIONS
IME ALLOWED: Answer ALL questions

1. Environmental temperature varies widely depending on (a) season, day and latitude only (b) day, season and depth of water body only (c) season, latitude, altitude and depth of water body (d) day, latitude, season, depth of water body and altitude only
2. Morning and night temperature in most part of the world are (a) higher than afternoon temp (b) lower than afternoon temp (c) the same with afternoon temperature (d) morning temperature is lower than while night temperature is higher than afternoon temp
3. Which of the following statement is not true (a) It is warmer in the tropics (b) It is colder away from the tropics (c) air temperature in the desert may be as high as 80 degree Celsius (d) Air temperature in the Arctic range from –30 to –70 degree celsius
4. At higher altitude air temperature reduce by 1 degree Celsius for every _____ altitude above sea level (a) 120m (b) 130m (c) 150m (d) 140m
5. The Q 10 law states that for every rise of _____ the rate of chemical reaction doubles (a) 20 degree Celsius (b) 30 degree Celsius (c) 10 degree Celsius (d) 40 degree Celsius.
6. Which of the following is true (a) temperature alone determines the geographical distribution animals (b) temperature and relative humidity alone (c) relative humidity alone (d) temperature, pressure and rel humidity alone.
7. Heat is lost or gained by (a) convection and conduction (b) convection and radiation (c) conduction, convection, radiation and evaporation (d) convection, radiation and evaporation
8. Animals whose body temperature passively follows that of the environment are said to be (a) endothermic (b) isothermic (c) homoithermic (d) enthalpy.
10. Chemical thermoregulation can be achieved in animals by one of the following (a) involuntary tremor or shivering of muscle and wearing of thick clothing (b) general increase in biochemical rates (c) hiding in warm places (d) drinking warm tea
11. The following statement is true except (a) The majority of animals are isothermic (b) Isothermic animals are also called poikilothermic (c) poikilothermy means cold-blooded (d) Isothermy means warm blooded
12. Animals that maintain their body temperature constant are said to be (a) homoeothermic (b) isothermic (c) exothermic (c) mesothermic
13. The following statements are true except (a) birds maintain higher body temperatures than mammals (b) passerine-birds have higher body temperatures than non-passeine (c) eutherian mammals have lower body temperature than marsupials (d) monotremes have lower body temperature than eutherian mammals
14. The body fluid animals are separated into (a) Intercellular & Extracellular (b) Extracellular & hydrocellular (c) Intracellular & Extracellular (d) Intracellular & endocellular
15. In animals with open circulation tissue fluid plasma are mixed forming the (a) coololymph (b) endolymph (c) haemolymph (d) tissue fluid
16. The Internal environment of the animal include the following except (a) blood (b) tissue fluid (c) haemolymph (d) cellular fluid
17. The higher the sall content of an aqueous medium the greater the ---------- (a) osmolic pressure (b) hydro pressure (c) geomorphic pressure (d) aqueous medium pressure
18. The following is true of sea water except (a) NaCl concentration is 3,45% (b) osmolic pressure is 1000 mOsm (c) salinity is 29ppt to 35ppt (d) depression of freezing point is –0.02 °C
19. Factors that affect the internal environment include the following except (a) loss of water & ions during urine formation (b) loss of water in faeces formation & removal (c) possession of impermeable body covering (d) gain of metabolic water during food metabolism
20. Respiratory Quotient (RQ) is (a) The ratio of volume of cyanide given off to that of oxygen taken in during respiration (b) The ratio of amount of carbohydrate oxidized to the amount taken in during respiration (c) The ratio of volume of carbon dioxide given off to that of oxygen taken in during respiration (d) The ratio of volume of water vapour given off to that of oxygen taken in during respiration.
21. The respiratory quotient when a gram of lipid is oxidized aerobically (a) 1.0, (b) 0.7 (c) 0.99 (d) 0.85
22. Which of the following statement is not true of energy metabolism (a) It is a series of chemical processes in a living thing through which it obtains power or energy from food (b) organism survive by transforming one form of energy into another (c) metabolic reaction are of three types (d) catabolic reactions are exergonic.
23. The following is true of metabolic rate except (a) The energy metabolism given per time is metabolic rate (b) It is determined more commonly by oxygen consumption and heat production by the animal. (c) The rate of metabolism increases linearly to the amount of physical work performed by the animal (d) The more cells there are in the animal the lesser the heat production.
24. Which of these visceral organs of man produce the highest amount of heat (a) brain (b) abdominal organs (c) heart (d) muscles.
25. C-4 Plants are adapted to high humidity (b) high rainfall (c) low temperature (d) high temperature
26. Preliminary step to Calvin Cycle is called ---- pathway (a) C-3 (b) C-5 (c) C-4 (d) C-6
27. C-4 Plants can raise artificially the ---- concentration in certain cells to prevent photo respiration (a) H_2O (b) Glycolic acid (c) CO_2 (d) PEP
28. The O_2 during photosynthesis come from (a) oxaloacetate (b) photorespiration (c) CO_2 (d) H_2O
29. In the bundle sheath OAA is broken down into (a) PEP + H_2O (b) PEP + RuBP (c) PEP + OOA (d) PEP + CO_2
30. RuBP is a -------- chemical (a) 4-C (b) 3-C (c) 6-C (d) 5-C
31. Both P_{700} and P_{680} can only be active and functional in the presence of ---------- in the thylakoid membrane (a) Grana (b) proteins (c) C-C bond (d) Fat

Carotenoid pigment absorb wavelength btw 460 & 550 nanometers
Producing yellow, orange & red colours

An arrangement of Chlorophyll and accessory ents in thylakoids is called (a) Photostem chlorostem (c) Grana (d) Stroma

Which of these elements become positively harged when exposed to ultraviolet light (a) lagnesium (b) Selenium (c) Sodium (d)Zinc

Calvin Cycle can be broken down when CO_2 vel drops below the threshold for RuBP (a) arboxylase (b) Carboxylase (c) Carbon (d) CO_2

C-4 Plants thrive well in (a) Swamp (b)Deserts (c) ain forest (d) Savanna

Six molecules of CO_2 entering the Calvin Cycle to roduce -------- molecules of glucose (a) Three (b) six (c) ne (d) Two

All of these EXCEPT ------ are needed to make -C bonds (a) ATP (b) NADPH (c) Enzyme (d) H_2O

Which of these is the product of dark reactions of hotosynthesis (a) sugar (b) ATP (c) Carbohydrate (d) :arbonhydrate

When CO_2 enters Calvin Cycle, PEP returns to ıe (a) Mesophyll (b) Bundle Sheath (c) Thylakoid (d))AA

The gap between grana are called (a) stroma) Thylakoids (c) Chloroplast (d) Membrane

Photosynthetic algae at the deeper depth of)cean absorb energy from -------- wave length (a) ong (b) short (c) medium (d) small

The role of accessory pigment is to (a) provide dditional photosynthesis (b) capture additional light c) prevent photorespiration (d) Donate electrons

The form of chlorophyll used by photosystem II s known as (a) P_{700} (b)P_{780} (c) P_{670} (d) P_{680}

Photosynthesis is highest in ------light (a) red b) red and blue (c) blue (d) infrared

An accessory pigment absorbs energy unable o be absorbed by chlorophyll (a) b (b) c (c) a (d) anthophylls

What is converted to Malic Acid? (a) OAA (b) GA (c) PGAL (d) RuBP

Wavelength is described by the (a) weight (b) ength (c) height (d) width

Which of the following is not produced when pigment absorbs light (a) chemical reaction (b) Dark eaction (c) Heat (d) Fluorescence

The incorporation of carbon dioxide into ganic compounds is called (a) Carboxylation (b) Carbon (c) C-C bond (d) Carbohydrate

The first product of Calvin Cycle is (a) PAG b) PGA (c) NAD (d) ATP

Which of the following is common to most cells? a) Endoplasm, ectoplasm, plasma membrane (b) Cytoplasm, nucleus, plasma membrane (c) cytoplasm, ucleus, cell wall (d) cell wall, cytoplasm, nucleus

The following are present in the nucleus except a) Genes (b) chromosomes (c) centrioles (d)nucleolus

Osmosis is best defined as the movement of – (a) mineral salts in a weak solution across a semi- ermeable membrane into a more concentrated olution. (b) water from one solution to another (c) Correct ater from a weak solution to a stronger solution hrough a sem permeable membrane (d) water from a solution of high concentration to that of low concen

An open bottle of a perfume was placed at end of a room, soon the perfume was smelt at the o end of the room. The process involved was (a) osmo (b) Endosmosis (c) Diffusion (d) Translocation

When diffusion pressure deficit is zero (a) osmotic pressure internal is equal to wall pressure (b) Osmotic pressure internal is equal to osmotic pressure external (c) Wall pressure is equal to osmotic pressure external (d) Hydrostatic pressure is equal to osmotic pressure internal.

A red blood cell is placed in distilled water. The cell swells up and burst. Which of the following processes is involved (a) Diffusion (b) Osmosis (c) Endomosis (d) Haemolysis

Which of following cannot be used to demonstrate osmosis? (a) parchment osmosis (b) sheep's bladder (c) cellophane (d) polythene

What happens when a plant cell is placed in a Petri dish containing a salt solution (a) The cell sap will pass into the cell solution (b) water was drawn into the cell (c) The salt solution has exerted a turgor pressure on the cell (d) water will pass from the cell into the salt solution

The stem of a young bean plant is kept upright by (a) root pressure (b) osmotic pressure (c) Turgor pressure (d) Capillary attraction

The total force by which a cell is able to take in water from its surrounding is known as (a) Osmoti pressure (b) Suction Pressure (c) Turgor Pressure (d Hydrostatic Pressure ~~The cell is turgid when diffusio pressure deficit is equal to~~ (a) zero (b) wall pressure (c Turgor Pressure (d) Osmotic pressure inside the cell

The inward pressure in a plant cell opposing diffusion pressure deficit (DPD is known as (a) Wall Pressure (b) Turgor pressure (c) Osmotic Pressure (d hydrostatic pressure

Animals that have thin tissue to overcome problem of diffusion is (a) Flat worm (b) Hydra (c Earthworm (d) Sea anemones

Which process requires an energy to effect (a Diffusion (b) Osmosis (c) Plasmolysis (d) Active diffusion

External respiration can be defined as the (a) taking in of oxygen and giving oxygen and giving out of Carbon (iv) oxide (b) Process by which food is broken down in the body to release energy (c) process by which oxygen reacts with food to provide water and carbon (iv) oxide (d) process by which energy is lost from the body

Tissue respiration can be defined as the process by which (a) the oxygen locked up in the food is released (b) oxygen is taking in and Carbon (iv) oxide is released (c) Oxygen combines with food to release water an Carbon (iv) oxide (d) Food is broken down in the body to release energy.

The first stage in the breakdown of glucose during respiration is called (a) Photolysis (b) Glycolysis (c) Aerobic fermentation (d) Fermentation

The product of the splitting of glucose during respiration is (a) Acetic acid (b) Pyruvic acid (c) Lactic acid (d) Ethyl alcohol