



Plant Physiology (251 B)

(1)- Choose the correct answers:

- 1- The term bioassay is used to describe the use ofto test the effect of known and putative biological active substances.
(a- Substance **b- living material** c- Antiauxins d- All).
- 2- The characteristics of a useful bioassay must include
(a- Specificity b- Sensitivity c- Ease in measuring **d- All**).
- 3-some auxins are combined with substances in the cell.
(a- Synthetic auxins b- Auxin precursors **c- Bound auxins** d- All).
- 4-are compounds that in the plant can be converted into auxins.
(a- Synthetic auxins b- Auxins c- Bound auxins **d- Auxin precursors**).
- 5- Sometimes the translocation of auxin in plant tissue occurs at high rates and can moveconcentration gradient.
(a- **Against** b- with c- High d- Low).
- 6- Basipetal movement in Avena sections occurs astransport.
(a- Diffusion b- Metabolic **c- a and b** d- Not all).
- 7- Anaerobic conditions often.....auxin transports.
(a- Active **b- Inhibit** c- Stimulate d- Not all).
- 8- Lateral buds are morethan apical buds to auxins.
(a- Tolerant **b- Sensitive** c- Damage d- Longer).
- 9- Phototropism is a growth response to light mediated by auxin.
(a- **Unilateral** b- Two lateral c- Multi lateral d- Not all).
- 10- Genetic dwarfism is one of the striking properties of Is that they overcome the phenotypic expression of dwarfism in certain plants.
(a- Auxin b- Ethylene c- Cytokinin d- **Gibberellins**).
- 11- Growth of the embryo during germination depends on the mobilization of stored
(a- Starch b- Protein c- Fat **d- All**).
- 12- Auxins promote in biological activity.
(a- Bolting b- Intact dwarf **c- Apical dominance** d- Breaking of dormancy).
- 13- Gibberellins promote In biological activity.
(a- **Bolting** b- Callus formation c- Leaf abscission d- Root initiation)
- 14- Auxins participate with gibberellins in promoting
(a- Bolting b- **Parthenocarpic fruit** c- Polar transport d- Apical dominance)
- 15- Gibberellins are used to increase in the cluster.
(a- Grape b- Number of grapes c- Cluster size **d- All**)
- 16- Gibberellins improve the of the fruit of many plants.
(a- Size b- Color c- Quality **d- All**)
- 17- When the rate of respiration will undergo a sharp rise and then fall near the end of ripening this is called
(a- **Climacteric phenomenon** b- Aerobic respiration c- Anaerobic respiration d- All)
- 18- Ethylene produced by the may diffuse to the older one.
(a- Young stem b- **Young leaves** c- Young root d- Not all)
- 19- Enzymes are organic catalysts produced by
(a- Cytoplasm b- **protoplasm** c- periplasm d- All)

- 20- Enzyme are compounds
(a- Living b- **Non-living** c- Semi-living d- nothing)
- 21- The nature of enzymes are
(a- **Protein** b- Lipid c- Carbohydrate d- All)
- 22- Enzyme are Affected by
(a- Temperature b- PH c- Metal ions d- **All**)
- 23- Enzyme like any catalystby the reactions they catalyze.
(a- **Unaffected** b- Affected c- Effected d- All)
- 24- An increase in the number of molecules of each essential enzymes must take place whenever the quantity ofincrease.
(a- Substrate b- Substance c- **Living matter** d- nothing)
- 25-enzyme which are always formed by the cell independently of the composition of the medium.
(a- **Constitutive** b- Inducible c- Induction d- nothing)
- 26- Addition of particular substances to the medium in inducible enzymes, this process called
(a- Constitutive b- Inducible c- **Induction** d- All)
- 27- The enzyme which responsible for cell division is found in the
(a- **Nucleus** b- Mitochondria c- Chloroplast d- All)
- 28- In insectivorous plants which excrete proteases hydrolyze theof the captured insects.
(a- Fats b-Carbohydrate c- a&b d-**Proteins**)
- 29-to be the controlling keys for the production and synthesis of enzymes within the cell.
(a- Enzyme b- **Gene** c- Hormone d-nothing)
- 30- The cell must be keptduring disruption.
(a- Warm b-Dry c- **Cold** d- Moist)
- 31- The medium must be buffered about
(a- Acidic b- **Neutrality** c- Alkali d- nothing)
- 32- Add reducing agent such as to prevent the oxidation of SH group during extraction.
(a- Glutathione b-Cysteine c- **a & b** d- PVP)
- 33- Addto remove the phenolics and prevent the oxidation during extraction of enzymes.
(a- **PVP** b-EDTA c- Glutathione d- Cysteine)
- 34-added to chelate heavy metal ions.
(a- PVP b- **EDTA** c- Glutathione d- Cysteine)
- 35- Molecular sieve chromatography consider one of themethod of enzymes.
(a- Extraction b- Dialysis c- **Separation** d- nothing)
- 36- Purification of enzymes can be obtained by repeatedand dissolving the enzymes in specific solvents adjust at specific pH.
(a- **Crystallization** b- Adsorption c- Absorption d- Diffusion)
- 37- The majority of enzyme cofactors may be divided into
(a- Specific enzymes b- Prosthetic group c- Activators d- **All**)
- 38- The protein component plus non-protein component are called
(a- **Haloenzymes** b- Apoenzyme c- Coenzyme d- Prosthetic group)

- 39- The molecular weights of coenzymes are Compared to those of even the simplest enzyme proteins.
 (a- Large b- More c- **Small** d- nothing)
- 40- Most of the prosthetic groups are attached to the enzymic protein such asand
 (a- NAD and NADP b- NAD and NADH c- **FMN and FAD** d- FMNH and FADH)
- 41- Are specific chemical compounds which accelerate the rate of enzymatic reaction.
 (a- Compounds b- Substance c- **Activators** d- Inhibitors)
- 42-are composed so similar in structure to the usual substrate molecules.
 (a- Activators b- **Competitive inhibitors** c- Non-competitive inhibitors d- nothing)
- 43-are usually reacts with either parts of enzymes or the enzyme lose its ability to interact with the substrate.
 (a- Activators b- Competitive inhibitors c- **Non-competitive inhibitors** d- nothing)
- 44- The enzyme classified intogroups
 (a- 4 groups b- **6 groups** c- 8 groups d- 10 groups)
- 45-they catalyze the hydrolysis the glycosidic bond in carbohydrates to liberate the simple sugar.
 (a- Isomerase b- Ligase c- **Hydrolases** d- Lyases)
- 46-the living cells of aerobic plants adsorb oxygen and are able to oxidize a wide variety of metabolites.
 (a- Ligase b- Isomerase c- Transferase d- **Oxidoreductase**)
- 47- The RQ value is less than 1 when the respiratory substrate is
 (a- **Fat** b- protein c- Carbohydrate d- Glucose)
- 48- The RQ value is more than 1 when the respiratory substrate is
 (a- Fat b- **protein** c- Carbohydrate d- Glucose)
- 49- When the respiratory substrate is partial oxidized and not complete to CO₂ and H₂O, the RQ value is equal to
 (a- Less than one b- **Zero** c- more than one d- nothing)
- 50- The amount of energy in anaerobic respiration iscompared with aerobic respiration.
 (a- **Small** b- Large c- equal d- not change)

(2)- Make (√) or (×):

1. Auxin precursors are compound that in the plant can be converted into auxins (√).
2. The highest concentrations of auxin are found in the growing tips of the plant (√).
3. The polar basipetal transports of auxin not require metabolic energy (×).
4. The apical bud is not the only source of auxins (√).
5. Gibberellins are used to increase the number of grapes in the cluster (√).
6. Inducible enzymes which are always formed by the cell independently of the composition of the medium (×).
7. Ammonium sulphate is commonly used to precipitate certain proteins (√).
8. Enzymes are organic catalysts, active in extremely small quantities (√).
9. Oxidation is a loss of electron by a molecules or a gain of oxygen atoms (√).
10. The first reaction of the krebs cycle is the condensation of acetyte CoA withoxaloacetic acid to form citric acid and release CoA (√).

*Best wishes
Dr. Radwan Khalil*