Benha University
Faculty OF Science
Botany Department

2nd year
2 hours
(Micro&Chem.)

Plant Physiology (251 B)

(1)- Choose the correct answers:

1- The term bioassay is used to describe the use of ……..to test the effect of know and putative biological active substances.
(a- Substance b- living material c- Antiauxins d- All).
2- The chracteristics of auseful 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 compound 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 move ……concentration gradient.
(a- Against b- with c- High d- Low).
6- Basipetal movement in Avena sections occurs as ……..transport.
(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 more ……than apical bud 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 one of the striking properties of ……. Is that they overcome the phenotypic expression of dwarfism in certain plants.
(a- Auxin b- Ethylen c- Cytokinine 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- Auxin participate the gibberellins in promote ……..
(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 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 catalyst ……..by 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 of …….increase.
(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 the ……of 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 kept ……during 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- Add ……to 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 the …….method of enzymes.
(a- Extraction b- Dialysis c- Separation d- nothing)
36- Purification of enzymes can be obtained by repeated ……and 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 as …….and ……
(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 into …….groups
(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 CO_2 and H_2O, 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 is …….compared 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 acetyle CoA withoxaloacetic acid to form citric acid and release CoA (√).

Best wishes
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