



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Science (Honours) in Biotechnology

Course Name – Plant Physiology and Biotechnology

Course Code - BBTC202

(Semester II)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) 0.6M Mannitol solution is an example of
 - a) Isotonic solution
 - b) Hypotonic solution
 - c) Hypertonic solution
 - d) None of these
- (2) The possible way to develop a virus free plantlet using
 - a) Mesophyll protoplast culture
 - b) Meristem tissue culture
 - c) Callus tissue culture
 - d) Seed culture
- (3) Flavonoids is an example of
 - a) Plant growth regulator
 - b) Plant primary metabolites
 - c) Plant secondary metabolites
 - d) None of these
- (4) Restriction enzymes was discovered by
 - a) Nathan, Arber and Smith in 1970
 - b) Watson, Crick and Wilkins in 1970
 - c) Boyer and Cohen in 1975
 - d) Paul Berg in 1975
- (5) Haploid plants can be obtained through
 - a) Meristem culture
 - b) Embryo culture
 - c) Endosperm culture
 - d) Pollen culture
- (6) Agar agar, used in plant tissue culture is extracted from
 - a) Fungi
 - b) Bacteria
 - c) An algae
 - d) Virus
- (7) The space between the cell wall and plasma membrane in a plasmolysed cell is filled with
 - a) Isotonic solution
 - b) Hypotonic solution
 - c) Hypertonic solution
 - d) Water
- (8) One chemical reagent in protoplast fusion is
 - a) Polyethylene glycol (PEG)
 - b) Adenosine tri phosphate (ATP)

- (22) Organogenesis is:
- a) formation of callus tissue
 - b) formation of root and shoots on callus tissue
 - c) both (formation of callus tissue) and (formation of root and shoots on callus tissue)
 - d) genesis of organs
- (23) Which breeding method uses a chemical to strip the cell wall of plant cells of two sexually incompatible species?
- a) Mass selection
 - b) Protoplast fusion
 - c) Transformation
 - d) Transpiration
- (24) Subculturing is similar to propagation by cuttings because
- a) it separates multiple microshoots and places them in a medium
 - b) it uses scions to produce new microshoots
 - c) they both use in vitro growing conditions
 - d) All of these
- (25) The living cell of xylem is known as:
- a) Xylem parenchyma
 - b) Xylem vessel
 - c) Tracheid
 - d) Trachea
- (26) Which of the following part of xylem can store food?
- a) Xylem parenchyma
 - b) Xylem vessel
 - c) Tracheid
 - d) Trachea
- (27) Sieve plate is found in:
- a) Xylem
 - b) Phloem
 - c) Xylem parenchyma
 - d) Phloem parenchyma
- (28) Xylem or phloem fiber function as:
- a) Supporting element
 - b) Food storing area
 - c) Both are true
 - d) None of these
- (29) Transport of Organic Substances in plant is known as:
- a) Transpiration
 - b) Transformation
 - c) Translocation
 - d) Transfer
- (30) Plant has storage organ in the form of:
- a) Tuber
 - b) Leaf
 - c) Stem
 - d) Bud
- (31) Which of the following is a macronutrient?
- a) Iron
 - b) Nitrogen
 - c) Cobalt
 - d) Zinc
- (32) Which of the following is a micronutrient?
- a) Carbon
 - b) Nitrogen
 - c) Iron
 - d) Sulfur
- (33) Deficiency of Nitrogen causes:
- a) Dark leaves
 - b) Succulence
 - c) Reduced growth
 - d) All of these
- (34) Phosphorus deficiency occurs only in:
- a) Stem
 - b) Older leaves
 - c) Root
 - d) New leaves
- (35) Superphosphates are basically:

- a) Fertilizers
c) Nonessential elements
- b) Toxic agents
d) None of these
- (36) Potassium is generally found lower amount in:
a) Organic soil
c) Both of these
- b) Mineral soil
d) None of these
- (37) Murate of Potash is the fertilizer of:
a) Nitrogen
c) Carbon
- b) Potassium
d) Sulfur
- (38) Leaf margin necrosis and browning occurs due to lack of:
a) Nitrogen
c) Potassium
- b) Sulfur
d) Carbon
- (39) EDTA is acting as:
a) Iron chelating agent
c) Potassium chelating agent
- b) Sulfur chelating agent
d) All of these
- (40) _____ is involved in carbohydrate metabolism.
a) Nitrogen
c) Zinc
- b) Boron
d) Copper
- (41) _____ is involved in protein synthesis.
a) Cobalt
c) Zinc
- b) Boron
d) Copper
- (42) _____ is required for chlorophyll synthesis.
a) Cobalt
c) Zinc
- b) Boron
d) Manganese
- (43) _____ is required for nitrate reductase activity and vitamin synthesis.
a) Molybdenum
c) Zinc
- b) Boron
d) Manganese
- (44) _____ is essential for enzymes of chlorophyll synthesis.
a) Molybdenum
c) Zinc
- b) Copper
d) Manganese
- (45) _____ is involved in photosynthetic oxygen revolution.
a) Molybdenum
c) Chlorine
- b) Copper
d) Manganese
- (46) Tannins are used as:
a) Antioxidant
c) Antidote for heavy metals poisoning
- b) Antidiarrheal
d) All of these
- (47) Colored flavinoids are:
a) Anthocyanin
c) Lignin
- b) Tannin
d) All of these
- (48) Flavones and Flavonols:
a) Absorb UV light
c) Appeared to be involved in legume roots in attracting N-fixing bacteria
- b) Are also flower pigments
d) All of these
- (49) Growth curve is _____ shaped curve.
a) S
c) J
- b) L
d) U

- (50) Ethylene is a _____
- a) Growth inhibitor
 - b) Growth promoter
 - c) Growth hormone
 - d) Liquid hormone
- (51) Auxin, indole acetic acid (IAA), is transported _____ from the shoot apex.
- a) Upwards
 - b) Downwards
 - c) Bidirection
 - d) Any one direction
- (52) Which of the following hormone is responsible for apical dominance?
- a) GA3
 - b) BAP
 - c) IAA
 - d) Ethylene
- (53) The main disadvantage of breeding is:
- a) It's very difficult to execute
 - b) It's time taking process
 - c) It's a hard process to understand
 - d) None of these
- (54) Plant breeding started for:
- a) Domestication of crops
 - b) Domestication of wild plants
 - c) Domestication of weeds
 - d) Domestication of animals
- (55) Who had discovered the process crossing can be used as a method to obtain new plant?
- a) Mendel
 - b) Wallace
 - c) Camerarius
 - d) Francis crick
- (56) To increase breeding effectiveness, Plant breeders generally prefer which of the following tools?
- a) RDT
 - b) Invitro culture
 - c) Genetic engineering
 - d) All of these
- (57) Plant transformation can be done by:
- a) Micro injection
 - b) Somatic hybridization
 - c) Agrobacterium tumefaciens
 - d) All of these
- (58) To deliver DNA into plant mitochondria, which one of the following tool is widely used?
- a) Gene Gun
 - b) Silicon carbide fiber
 - c) Agrobacterium tumefaciens
 - d) All of these
- (59) A. rhizogenes causes which of the following disease in plants?
- a) Hairy root
 - b) Crown gall
 - c) Both of them
 - d) None of these
- (60) Microinjection can be done _____ days before meiosis.
- a) 28
 - b) 14
 - c) 7
 - d) 3