

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) $1 \times 60 = 60$ Choose the correct alternative from the following: (1) 0.6M Mannitol solution is an example of a) Isotonic solution b) Hypotonic solution d) None of these c) Hypertonic solution (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 d) None of these c) Plant secondary metabolites (4) Restriction enzymes was discovered by a) Nathan, Arber and Smith in 1970 b) Watson, Crick and Wilkins in 1970 d) Paul Berg in 1975 c) Boyer and Cohen in 1975 (5) Haploid plants can be obtained through a) Meristem culture b) Embryo culture d) Pollen culture c) Endosperm culture (6) Agar agar, used in plant tissue culture is extracted from a) Fungi b) Bacteria d) Virus c) An algae (7) The space between the cell wall and plasma membrane in a plasmolysed cell is filled b) Hypotonic solution a) Isotonic solution c) Hypertonic solution

(8) One chemical reagent in protoplast fusion is

a) Polyethylene glycol (PEG)

d) Water

b) Adinosine tri phosphate (ATP)

c) Indole acetic acid (IAA)	d) Cytokinin
(9) A technique of micropropagation is	
a) Multiple root production	b) Somatic embryogenesis
 c) Growth of microorganisms on culture medium 	d) Multiple shoot production and embryo rescue
(10) Which plant growth regulator helps in breaking	the dormancy of plants?
a) Auxin	b) Gibberellin
c) Cytokinin	d) Ethylene
(11) In plants, water rises upwards through	
a) Cambium	b) Stomata
c) Xylem	d) Pholem
(12) Diffusion of water through semipermeable men concentrated solution is	nbrane from dilute solution to
a) Imbibition	b) Osmosis
c) Plasmolysis	d) Necrosis
(13) The membrane which allows the movement of and not the solute particles	only water molecules to pass through it
a) Permeable membrane	b) Semi permeable membrane
c) Imperimeable membrane	d) Not permeable
(14) The process of imbibition involves	
a) Diffusion	b) Capillary action
c) Absorption	d) Both Diffusion and Capillary action
(15) Which of the following hormone is found in ga	seous form?
a) Auxin	b) Gibberellin
c) Cytokinin	d) Ethylene
(16) Which plant hormone is helpful in making RNA	A and protein?
a) Auxin	b) Gibberellin
c) Cytokinin	d) Ethylene
(17) In growth room, humidifier serves as:	
a) Contaminant reducer	b) Humidity reducer
c) Medium drying preventer	d) Temperature controller
(18) Plant tissue culture technique is a redefined me	thod of
a) Hybridization	b) Vegetative Propagation
c) Asexual Reproduction	d) Selection
(19) The enzymes required to obtain wall-free / nake	ed protoplasts are:
a) Cellulase and Proteinase	b) Cellulase and Pectinase
c) Cellulase and amylase	d) Amylase and Pectinase
(20) The first transgenic crop was	
a) Pea	b) Tobacco
c) Flax	d) Cotton
(21) What is meant by 'Organ culture'?	
 a) Maintenance alive of a whole organ, after removal from the organism by partial immersion in a nutrient fluid 	b) Introduction of a new organ in an animal body with a view to create genetic mutation in the progenies of that animal
c) Cultivation of organs in a laboratory through the synthesis of tissues	d) The aspects of culture in community which are mainly dedicated by the need of a

(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 stri sexually incompatible species?	p the cell wall of plant cells of two
a) Mass selection	b) Protoplast fusion
c) Transformation	d) Transpiration
(24) Subculturing is similar to propagation by cuttir	ngs 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	own 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) Cobult	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	b) Toxic agents
c) Nonessential elements	d) None of these
(36) Potassium is generally found lower amount in:	
a) Organic soil	b) Mineral soil
c) Both of these	d) None of these
(37) Murate of Potash is the fertilizer of:	
a) Nitrogen	b) Potassium
c) Carbon	d) Sulfur
(38) Leaf margin necrosis and browning occurs due to	lack of:
a) Nitrogen	b) Sulfur
c) Potassium	d) Carbon
(39) EDTA is acting as:	
a) Iron chelating agent	b) Sulfur chelating agent
c) Potassium chelating agent	d) All of these
(40) is involved in carbohydrate metabolism.	
a) Nitogen	b) Boron
c) Zinc	d) Copper
(41) is involved in protein synthesis.	
a) Cobult	b) Boron
c) Zinc	d) Copper
(42) is required for chlorophyll synthesis.	
a) Cobult	b) Boron
c) Zinc	d) Manganese
(43) is required for nitrate reductase activity a	and vitamin synthesis.
a) Molybdenum	b) Boron
c) Zinc	d) Manganese
(44) is essential for enzymes of chlorophyll sy	ynthesis.
a) Molybdenum	b) Copper
c) Zinc	d) Manganese
(45) is involved in photosynthetic oxygen rev	olution.
a) Molybdenum	b) Copper
c) Chlorine	d) Manganese
(46) Tannins are used as:	
a) Antioxidant	b) Antidiarrheal
c) Antidote for heavy metals poisoning	d) All of these
(47) Colored flavinoids are:	
a) Anthocyanin	b) Tannin
c) Lignin	d) All of these
(48) Flavones and Flavonols:	
a) Absorb UV light	b) Are also flower pigments
 c) Appeared to be involved in legume roots in attracting N-fixing bacteria 	d) All of these
(49) Growth curve is shaped curve.	
a) S	b) L
c) J	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 breede following tools?	rs generally prefer which of the
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 used?	one of the following tool is widely
a) Gene Gun	b) Silicon carbide fiber
c) Agrobacterium tumefaciens	d) All of these
(59) A. rhizogenes causes which of the following dis	ease in plants?
a) Hairy root	b) Crown gall
c) Both of them	d) None of these
(60) Microinjection can be done days before n	neiosis.
a) 28	b) 14
c) 7	d) 3