



## BRAINWARE UNIVERSITY

**Term End Examination 2021 - 22**

**Programme – Bachelor of Science (Honours) in Agriculture**

**Course Name – Agricultural Microbiology**

**Course Code - CC-BAG272(T)**

**( Semester II )**

**Time allotted : 1 Hrs.5 Min.**

**Full Marks : 50**

[The figure in the margin indicates full marks.]

### Group-A

(Multiple Choice Type Question)

1 x 50=50

*Choose the correct alternative from the following :*

- (1) “I found floating therein earthly particles, some green streaks, spirally wound serpent-wise, and orderly arranged, the whole circumstance of each of these streaks was about the thickness of a hair on one’s head”.... These words are of
 

a) Leeuwenhoek	b) Jenner
c) Pasteur	d) Koch
- (2) The principle light- trapping pigment molecule in plants, Algae, and cyanobacteria is
 

a) Chlorophyll a	b) Chlorophyll b
c) Porphyrin	d) Rhodapsin
- (3) During Bio Geo chemical cycle some amount of elemental carbon was utilized by the microorganisms. The phenomenon is called as
 

a) Dissimilation	b) Immobilization
c) Decomposition	d) Neutralization
- (4) Who demonstrated that open tubes of broth remained free of bacteria when air was free of dust.
 

a) Abbc Spallanzani	b) John Tyndall
c) Francisco Redi	d) Pasteur
- (5) The symptome “ general feeling of illness and discomfort “ is called
 

a) Cystitis	b) Malaise
c) Anaphylactic shock	d) Arthritis
- (6) On soybean which of the following forms symbiotism
 

a) Azatobactor paspali	b) Rhizobium
c) Nostoc	d) Bradyrhizobium
- (7) Spirulina belongs to

- a) Xanthophyceae  
c) Rhodophyceae
- b) Cyanophyceae  
d) Pheophyceae
- (8) The first antibody to contact invading microorganisms was  
a) IgG  
c) IgA
- b) IgM  
d) IgD
- (9) Coenzyme Q  
a) Coenzyme Q  
c) Lactose dehydrogenase
- b) Luciferase  
d) Carboxylase reductase
- (10) Salt and sugar preserve foods because they  
a) Make them acid  
c) Deplete nutrients
- b) Produce a hypotonic environment  
d) Produce a hypertonic environment
- (11) In a fluorescent microscope the objective lens is made of  
a) Glass  
c) Polythene
- b) Quartz  
d) None of these
- (12) Fixation of atmospheric nitrogen is by means of  
a) Biological process  
c) Ultraviolet light
- b) Lightining  
d) All of the above
- (13) The image obtained in a compound microscope is  
a) Rea  
c) Real inverted
- b) Virtual  
d) Virtual inverted
- (14) Enzymes respons ib le for alcohol ic fermentation  
a) Ketolase  
c) Peroxidase
- b) Zymase  
d) Oxidase
- (15) Which type of spores are produced sexually?  
a) Conidia  
c) Ascospores
- b) Sporangiospores  
d) None of these
- (16) Father of microbiology is  
a) Louis Pasteur  
c) A.V. Leeuwenhock
- b) Lister  
d) Robert Koch
- (17) The antiseptic method was first demonstrated by  
a) Lwanowski  
c) Edward Jenner
- b) Lord Lister  
d) Beijerinck
- (18) Small pox vaccine was first discovered by  
a) Robert Koch  
c) Lister
- b) Louis Pasteur  
d) Edward Jenner
- (19) Compound microscope was discovered by  
a) Antony von  
c) Johnsen & Hans
- b) Pasteur  
d) None of these
- (20) Disease that affects many people at different countries is termed as  
a) Sporadic  
c) Epidemic
- b) Pandemic  
d) Endemic
- (21) In electron microscope, what material is used as an objective lense?

- a) Magnetic coils  
c) Aluminium foils
- b) Superfine glass  
d) Electrons
- (22) The main feature of prokaryotic organism is
- a) Absence of locomotion  
c) Absence of nuclear material
- b) Absence of nuclear envelope  
d) Absence of protein synthesis
- (23) The mass of organisms for unit mass of soil is known as
- a) Biomass  
c) Population
- b) Group  
d) Habit
- (24) Who isolated bacteria from root nodules of legumes which were the agents for nitrogen fixation
- a) M.W. Beijerinck  
c) Liebig
- b) J.B. Boussingault  
d) Whitney
- (25) The organism which is most abundant in soil among following
- a) Bacteria  
c) Algae
- b) Fungi  
d) Actinomycetes
- (26) Wood is mainly decomposed by
- a) Fungi  
c) Actinomycetes
- b) Bacteria  
d) Algae
- (27) Nitrogen fixation by legume plants with the help of Rhizobium is
- a) Conversion of atmospheric nitrogen to ammonia  
c) Ammonia to nitrite
- b) Ammonia to nitrogen  
d) Ammonia to nitrate
- (28) Father of soil microbiology is
- a) S.N. Winogradsky  
c) Jenny
- b) Marshall  
d) Lawn
- (29) The enzyme which involved in biological nitrogen fixation is
- a) Amylase  
c) Cellulase
- b) Nitrogenase  
d) Sulphatase
- (30) In nitrification process the conversion of nitrite ( $\text{NO}_2^-$ ) to nitrate ( $\text{NO}_3^-$ )
- a) nitrosomonas  
c) bacillus
- b) nitrobacter  
d) clostridium
- (31) The nitrification slow or almost ceases at the pH
- a) Below 5.0  
c) Above 6.0
- b) Above 5.0  
d) Above 8.0
- (32) The process by which nitrates are reduced to oxides of nitrogen and even to gaseous nitrogen is called
- a) Nitrification  
c) Aminization
- b) Denitrification  
d) Ammonification
- (33) Denitrification done by following bacteria
- a) Pseudomonas  
c) Paracoccus
- b) Bacillus  
d) All of the above
- (34) The following material which is resistant to microbial decomposition

- a) Amino acids  
b) Proteins  
c) Lignin  
d) Sugars
- (35) Mycorrhiza help in the increasing availability of following element  
a) N  
b) P  
c) K  
d) Mg
- (36) Excretion of earthworms is called  
a) Wastes  
b) Casts  
c) Pelophos  
d) Guano
- (37) Chemoautotrophs are  
a) Nitrosomonus  
b) Nitrobacter  
c) Both Nitrosomonus and Nitrobacter  
d) Bacillus
- (38) Rhizobium infects the host legume plants through  
a) Epidermal cells  
b) Cortex cells  
c) Root hairs  
d) Leaves
- (39) When the high C:N ratio substances added to soil the following process takes place  
a) Mineralization  
b) Immobilization  
c) Aminization  
d) Decomposition
- (40) Phosphorus solubilizing fungi is  
a) Aspergillus awamori  
b) Cocci  
c) Pseudomonas striata  
d) Bacillus
- (41) Reduction of sulphur done by  
a) Desulfovibrio  
b) Desulfobacterium  
c) Pseudomonas striata  
d) Nitrosomonus
- (42) Symbiosis in N<sub>2</sub> fixation for plant benefit of low land rice crop in the tropical and subtropical regions without formation of root nodules is through  
a) Azotobacter-non legume plants  
b) Mycorrhizae-tree plants  
c) Azolla-anabaena  
d) Rhizobium-legume crops
- (43) Rhizobium differs from Bradyrhizobium most importantly in  
a) Acid production  
b) N-fixing capacity  
c) Growth rate  
d) Nodulation pattern
- (44) Eutrophication of lakes leads to overgrowth of  
a) bacteria  
b) Fungi  
c) Algae  
d) Grasses
- (45) VAM is a  
a) Bacteria  
b) Fungi  
c) Actinomycetes  
d) Algae
- (46) Phosphorus solubilizing bacteria is  
a) Bacillus megaterium  
b) Pseudomonas striata  
c) Both bacillus and Pseudomonas  
d) Clostridium
- (47) BGA as nitrogen fixer first demonstrated in India by  
a) P.K.Dey  
b) Bousingault  
c) Jenny  
d) R.N.Singh
- (48) When the organisms use different substrates and need not compete which is called

a) Neutralism

c) Synergism

b) Mutualism

d) Amensalism

(49) Role of leghaemoglobin in nitrification is

a) O<sub>2</sub> carrier

c) CO<sub>2</sub> carrier

b) CO<sub>2</sub> carrier

d) N<sub>2</sub>O carrier

(50) Protein hydrolysis in the soil done by following enzyme

a) Urease

c) Protease

b) Phosphatase

d) Dehydrogenase