



BRAINWARE UNIVERSITY
Term End Examination 2020 - 21
Programme – Master of Science in Biotechnology
Course Name – Environmental Biotechnology
Course Code - MBT302

Semester / Year - Semester III

Time allotted : 75 Minutes

Full Marks : 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

1. *(Answer any Sixty)*

(i) Which of the following is biodegradable?

- | | |
|------------|--------------|
| a) Paper | b) D.D.T |
| c) Plastic | d) Aluminium |

(ii) Which of the following problems is not created by noise pollution?

- | | |
|--------------|-----------------|
| a) Diarrhoea | b) Hypertension |
| c) Deafness | d) Irritation |

(iii) Which statement is correct with respect to the food chain?

- | | |
|--|--|
| a) Every component of food chain forms trophic level | b) Every component of food chain forms trophic level |
| c) All the chains formed by nutritional relations is used to understand energy flow. | d) All of these |

(iv) Which is not the characteristic of 'r' selected species?

- | | |
|----------------------|--|
| a) Reproduce quickly | b) A low survival rate of progenies |
| c) Parental care | d) Produce a large number of progenies |

(v) The study of living organisms with the environment is known as

- | | |
|--------------|----------------|
| a) Ecosystem | b) Environment |
|--------------|----------------|

c) Community

d) Ecology

(vi) The human activity, among the following, which causes maximum environmental pollution having regional and global impact, is

a) Industrialization

b) Urbanization

c) Agriculture

d) Mining

(vii) A simple detritus food chain starts with

a) green plant

b) wastes of organisms and dead organisms

c) both green plant and waste of organism and dead organism

d) none of these

(viii) World Environmental Day' is celebrated every year on

a) 5th May

b) 5th June

c) 5th July

d) 18th July

(ix) Eutrophication means

a) Water purification

b) Neutralization of waste water

c) Waste water Treatment process

d) Enrichment of plant nutrients in water bodies

(x) The two major components of ecosystem are

a) Abiotic and biotic

b) Cyclic and biologic

c) Adiabatic and isotropic

d) Ecologic and climatologic

(xi) Sustainable development

a) Encourages environmentally economic growth

b) Discourages environmentally economic growth

c) Encourages environmentally harmful and unsustainable forms of economic growth

d) All of these

(xii) Good example of sedimentary cycle is

- a) Oxygen cycle
- b) Sulphur cycle
- c) Nitrogen cycle
- d) Phosphorus cycle

(xiii) Which of the following is the largest sink for carbon dioxide gas?

- a) Forests
- b) Oceans
- c) Ice sheets
- d) Grasslands

(xiv) Which of the following is involved in production of carboxy haemoglobin?

- a) CO
- b) SO₂
- c) NO₂
- d) NO₃

(xv) Which of the following is a liquid form of aerosol?

- a) Fume
- b) Dust
- c) Mist
- d) Smoke

(xvi) Which of the following leads to a disease called broncho spasm?

- a) SO₂
- b) SO₃
- c) SO₄
- d) CO₂

(xvii) Which of the following air pollution control device has maximum efficiency?

- a) Electrostatic precipitator
- b) Dynamic precipitator
- c) Spray tower
- d) Wet cyclonic scrubber

(xviii) Which of the following is a secondary air pollutant?

- a) SPM
- b) PAN
- c) SO₂
- d) NO₂

(xix) Which of the following removes both gaseous and particulate

contaminants?

- a) Venturi scrubber
- b) Gravitational settling chamber
- c) Dynamic precipitator
- d) Wet scrubber

(xx) Which of the following pollutants is the major contributor to photochemical smog?

- a) Peroxynitrates
- b) Hydroperoxides
- c) Nitrogen dioxide
- d) Ozone

(xxi) How does increase in temperature affect air pollution?

- a) Higher temperatures reduce air pollution
- b) Higher temperatures increase air pollution
- c) Temperature does not affect the air pollution levels
- d) Humidity factor is also necessary to predict variance of air pollution with temperature

(xxii) Which of the following is the current major contributor to lead air pollution?

- a) Motor vehicles
- b) Metal processing centres
- c) Waste incinerators
- d) Lead acid battery manufacturing units

(xxiii) Which of the following radiations of the sun do greenhouse gases trap?

- a) Visible radiations
- b) Infrared radiations
- c) UV radiations
- d) All the radiations

(xxiv) Which of these is NOT a primary pollutant?

- a) Carbon monoxide
- b) Carbon dioxide
- c) Ground level ozone
- d) Oxygen

(xxv) Which of the following is an inorganic pollutant?

- a) Carbon monoxide
- b) Carbonyl compounds

c) Aromatic hydrocarbons

d) None of the mentioned

(xxvi) Which of the following gases has the highest affinity for blood haemoglobin?

a) Carbon dioxide

b) Oxygen

c) Carbon monoxide

d) Nitrogen

(xxvii) Which of the following is a source for boron air pollution?

a) Rockets and jets

b) Automobiles

c) Soap industries

d) Refrigerants

(xxviii) BOD stands for

a) Biotic Oxygen Demand

b) Biological Oxidation Demand

c) Biological Oxygen Demand

d) Biochemical Oxygen Demand

(xxix) Cement factory labourers are prone to

a) Leukamia

b) Cytosilicosis

c) Anaemia

d) Bronchitis

(xxx) Which of the following is the cause of biomagnification?

a) Eutrophication

b) Detergent pollution

c) Pesticide pollution

d) Industrial pollution

(xxxii) What does the process of carbon sequestration mean?

a) Removal of CO₂ from the atmosphere

b) Storage of CO₂ by depositing in reservoir

c) Removal of CO₂ from the atmosphere & Storage of CO₂ by depositing in reservoir

d) None of the mentioned

(xxxii) Who discovered the ozone layer?

a) Henri Buisson & Charles Fabry

b) Carl Sagan & Charles Fabry

c) G.M.B Dobson

d) Carl Sagan &G.M.B Dobson

(xxxiii) Areas that are under the influence of DDT may observe a decline in the population of birds. This is due to the fact that

- a) Birds stopped laying eggs altogether
- b) The eggs did not hatch
- c) Predation of the eggs increased
- d) None of these

(xxxiv) _____ is a waste disposal method where solid organic wastes are converted o residue and gaseous products through combustion.

- a) Incarnation
- b) Incineration
- c) Incarceration
- d) Incubation

(xxxv) _____ is an organism used to gauge the quality of an ecosystem.

- a) Decomposers
- b) Predator
- c) Bio-remediator
- d) Bioindicator

(xxxvi) The presence of _____ in a water body is an indicator of water pollution

- a) Zygosporangium
- b) E.Coli
- c) Deinococcus radiodurans
- d) None of these

(xxxvii) Which of the following gases is responsible for the yellowing of the Taj Mahal?

- a) Organic carbon
- b) Black carbon
- c) Brown carbon
- d) All of the mentioned

(xxxviii) _____ is defined as the number of species represented in a specific region, landscape or an ecological community.

- a) Coevolution
- b) Commensalism
- c) Species richness
- d) Population density

(xxxix) _____ is not generally seen in biodiversity hotspots.

- a) Endemism
- b) Species richness
- c) Loss of diversity
- d) Lesser interspecific competition

(xl) _____ is a non-renewable resource

- a) Crude oil
- b) Uranium
- c) Hot spring
- d) Silica

(xli) _____ occurs when the death of the last individual in a species occurs.

- a) Adaptation
- b) Phylogenic diversity
- c) Speciation
- d) Extinction

(xlii) Which of the following lake zones has phytoplanktons in abundance?

- a) Littoral zone
- b) Benthic zone
- c) Lemnitic zone
- d) Profoundal zone

(xliii) For the production of ethanol, the most common substrate used in distilleries is

- a) Soya meal
- b) Molasses
- c) Ground gram
- d) corn meal

(xliv) Carbon dioxide is not released in which of the following processes?

- a) Lactate fermentation
- b) Alcoholic fermentation
- c) Aerobic respiration in animals
- d) Aerobic respiration in plants

(xlv) This is an example of of non-polluting renewable type of energy

- a) tidal
- b) Wind
- c) solar
- d) all of these

(xlvi) What does high value of BOD(Biochemical Oxygen Demand) indicate

- a) That water is pure
- b) That water is less polluted
- c) That water is highly polluted
- d) That consumption of organic matter by microbes is higher in the water

(xlvi) What type of food chain is it? dead animals ? blow fly maggot ? maggots ? frog ? snake

- a) Detrital food chain
- b) Decomposer food chain
- c) Predator food chain
- d) Grazing food chain

(xlviii) This group consists of non-renewable organic resources

- a) Water, air and minerals
- b) natural gas, oil and coal
- c) wood, water and natural pastures
- d) sand, air and clay

(xlix) Soil erosion can be prevented by

- a) Afforestation
- b) Overgrazing
- c) increasing birds population
- d) removal of vegetation

(l) Soil conservation is the process where

- a) soil is aerated
- b) soil is protected against loss
- c) sterile soil is converted to fertile soil
- d) soil erosion is allowed

(li) At this stage of wastewater treatment, methanogenic microbes are the most significant

- a) Sludge digestion
- b) Primary treatment
- c) Secondary treatment
- d) Biological oxidation

(lii) The most important reason for biodiversity loss in today's age is

- a) over-exploitation
- b) co-extinctions
- c) alien species invasions
- d) fragmentation and habitat loss

(liii) The National aquatic animal of India is

- a) Sea horse
- b) River Dolphin
- c) Blue whale
- d) Gangetic shark

(liv) The region of biosphere reserve that is protected legally, where no human activity takes place is known as

- a) transition zone
- b) buffer zone
- c) core zone
- d) restoration zone

(lv) A process using microbes to convert toxic industrial wastes to less toxic or non-toxic compounds is

- a) Precipitation
- b) Complement fixation
- c) Bioconversion
- d) Bioremediation

(lvi) _____ bacterium can withstand doses of radiation which are several times higher than what human cells can tolerate

- a) Escherichia coli
- b) Conus magus
- c) Deinococcus radiodurans
- d) Staphylococcus aureus

(lvii) The bioremediation process involving usage of plants to degrade pollutants is

- a) Composting
- b) Biopile
- c) Phytoremediation
- d) Land farming

(lviii) This is not an indigenous microbe used for bioremediation

- a) Pseudomonas aeruginosa
- b) Piscirickettsia salmonis
- c) Phanerochaete sordida
- d) Coli

(lix) Deforestation may reduce the chances of

- a) frequent landslides
- b) erosion of surface soil
- c) Rainfall
- d) frequent cyclones

(lx) Bioaugmentation involves

a) eliminating sludge

b) plants usage for bioremediation

c) addition of microbes to a cleanup site

d) Bioventing