Shree Rishikesh Shikshan Prasarak Mandal

Shri. D. D. Vispute College of Science, Commerce & Management

Devad – Vichumbe New Panvel.

Department of Biotechnology

Class: S.Y.B.Sc

Semester IV (April Examination 2021-2022)

Subject: Environmental Biotechnology

**Multiple choice Questions:**

1) Which is the largest source for production of nitrous oxide?

1. Chemical industry
2. Fertiliser industry
3. Fossil fuel combustion
4. Bacterial action

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

1. Rockets and jets
2. Automobiles
3. Soap industries
4. Refrigerants

3) What is the residence time (average time a particle is active in a given system) of carbon monoxide?

1. 11-15 years
2. 0.1-0.3 years
3. 0.5 years
4. Few minutes

4) Waste water released from \_\_\_\_\_\_\_\_\_ are not the sources of bacteria.

1. Sanitaria
2. Municipalities
3. Tanning
4. Industries

5) Bacteria and micro organisms present in the water will cause \_\_\_\_\_\_\_\_\_ in human and animals.

1. Indigestion
2. Intestinal tract
3. Brain tumour
4. Cancer

6) Bacteria in water causes \_\_\_\_\_\_\_\_

1. Malaria
2. Typhoid
3. Dengue
4. Chicken guinea

7) The \_\_\_\_\_\_\_\_\_\_\_\_ is an important requirement of the aquatic life.

1. Dissolved nitrogen
2. Dissolved chlorine
3. Dissolved oxygen
4. Dissolved methane

8) The optimum value in natural water is \_\_\_\_\_\_\_\_

1. 2-4ppm
2. 4-7ppm
3. 4-6ppm
4. 2-7ppm

9) What is the full form of BOD?

1. Biochemical oxygen demand
2. Biological oxygen demand
3. Biometric oxygen deep water
4. Biological oxygen deep water

10) The disappearance of the plants and animals is due to the \_\_\_\_\_\_\_\_\_ in water.

1. Nitrogen depletion
2. Chlorine depletion
3. Oxygen depletion
4. Ozone depletion

11) The decomposition of the matter produces into \_\_\_\_\_\_\_\_\_\_\_ and in presence of \_\_\_\_\_\_\_\_\_\_\_\_

1. Carbondioxide and oxygen
2. Oxygen and nitrogen
3. Nitrogen and carbondioxide
4. Nitrogen and chlorine

12) The organic matter present in the water is of \_\_\_\_\_\_\_\_\_\_ types.

1. Two
2. Three
3. Four
4. Five

13) Coastal water shows major differences in \_\_\_\_\_\_\_\_\_\_\_

1. Pollution
2. Sewage
3. Salinity
4. Conductivity

14) Monitoring systems can be carried out by using \_\_\_\_\_\_\_\_\_\_

1. Motors
2. Automatic sensors
3. Automatic motors
4. Turbines

15) In which temperature soil develops slowly?

1. Summer
2. Wind
3. Rainy
4. Cold

16) Under ideal climatic conditions how many cms of soil is developed?

1. One
2. Two
3. Three
4. Four

17) What is called for the matured soils which are arranged in a series of zones?

1. Soil zones
2. Soil layers
3. Soil horizons
4. Soil benches

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22) What is soil profile?

1. A cross sectional view of the horizons in a soil
2. A front view of the horizons in a soil
3. A cross sectional view of the horizons in rocks
4. A front view of the horizons in rocks

23) How many horizons are there in soils?

1. One
2. Two
3. Three
4. Four

24) Which horizon helps to determine the pH of the soil?

1. Organic manure
2. B
3. C
4. O

25) What is called for the mixture of all the contents of soil?

1. Erosion
2. Sublimation
3. Degradation
4. Loams

26) Why area treatment is important for soil?

1. To reduces the impact of raindrops on the soil
2. To maximize surface run-off
3. Not treating the upper catchment and proceeds towards an outlet
4. Not storing surplus rainwater

27) What is called for the movement of surface litter and topsoil from one place to another?

1. Soil submerge
2. Soil degradation
3. Soil erosion
4. Soil pollution

28) What is used to convert wastelands into agricultural lands?

1. Check dams
2. Water purifier
3. Rain harvesters
4. Chemical fertilizers

29) Organic agriculture advocates avoiding the use of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Organic manure
2. Stored water
3. Modern technologies in harvesting
4. Chemical fertilizers

30) Which is the main causative factor for desertification?

1. Irrigated agriculture
2. Overgrazing
3. Tourism
4. Developmental activities

31) One of the following crops is the most effective in controlling soil erosion:

1. Cotton
2. Pigeon pea
3. Green gram
4. Maize

32) Main indicator of soil erosion is:

1. Deforestation
2. Afforestation
3. Ozone layer
4. Goats and grazing animals

33) Sheet erosion is caused by:

1. Fast running rivers
2. Wind
3. Heavy rains
4. Glaciers

34) These are features of higher energy level and shorter wavelengths

1. Infrared radiation
2. Alpha radiation
3. Beta radiation
4. Ultraviolet radiation

35) Normal greenhouse effect is essential for sustenance of life on Earth as it has raised the surface temperature of earth by

1. 15
2. 33
3. –18
4. 50

36) This statement is false about the greenhouse effect

1. Life on the earth is possible due to the greenhouse effect
2. The greenhouse effect is a natural process that maintains the earth’s temperature
3. Increased emission of greenhouse gases is a natural process
4. Increased emission of greenhouse gases in the atmosphere increases earth’s temperature

37) Greenhouse gases present in a very high quantity is

1. Ethane
2. Carbon dioxide
3. Propane
4. Methane

38) This is the most potent greenhouse gas in terms of efficiency

1. N2O
2. CFC
3. C2O
4. CH4

39) The one which is not considered as naturally occurring greenhouse gas is

1. CFCs
2. Methane
3. Carbon dioxide
4. Nitrous oxide

40) The relative contribution of various greenhouse gases to total global warming will not be

1. CFCs – 14%
2. N2O – 12%
3. Carbon dioxide – 60%
4. Methane – 20%

41) Gas molecules absorbing thermal infrared radiation and present in large quantity to change the climate system is known as

1. Ozone gases
2. Beta radiations
3. Alpha radiations
4. Greenhouse gases

42) Burning of fossil fuels

1. Increased oxygen level
2. Increases greenhouse gases
3. Decreases greenhouse gases
4. Increased ethane level

43) The gases that contribute to the greenhouse effect on Earth are, in order of greatest

to smallest in importance,

1. CO2, H20, CH4
2. H20, CO2, CH4
3. CH4, CO2, H20
4. H20, CH4, CO2

44) On average, how do high clouds affect the surface temperature (compared to a clear sky)?

1. High clouds warm the surface by increasing the greenhouse effect
2. High clouds cool the surface by increasing the energy emitted to space
3. High clouds cool the surface by increasing the albedo
4. It depends on whether they are comprised of ice or liquid water

45) Which Among the Following Compounds Have the Highest Gwp?

1. Nitrous oxide
2. Sulphur hexafluoride
3. Water vapour
4. CFC

46) Which of the Following Has the Highest Radiative Efficiency?

1. Sulphur hexafluoride
2. Carbon tetrachloride
3. CFC
4. PFTBA

47) Which of the Following Greenhouse Gases Has the Highest Atmospheric Lifetime?

1. CFC
2. Nitrous oxide
3. Methane
4. Carbon tetrafluoride

48) Infrared Radiations Have ----------------Wavelength?

1. Shorter
2. Infinite
3. Longer
4. Zero

49) How many percent of carbon dioxide increased in the atmosphere since pre-industrial times?

1. About 10%
2. About 20%
3. About 30%
4. About 40%

50) Changes in the composition of the atmosphere is an example of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Internal forcing
2. External forcing
3. Mid forcing
4. Gravitational forcing

51) What is the main reason for melting of ice sheets?

1. Increase in the oxygen content
2. Global warming
3. Decrease in carbon dioxide content
4. Noise pollution

52) Which one of the following is the effect of global warming?

1. Maintaining sea level
2. Proper rainfall
3. Desertification
4. Afforestation

53) Which of the following gas does not contribute to the global warming?

1. Methane
2. Carbon dioxide
3. Sulpuhr
4. Acetylene

54) How human activity has influenced global warming?

1. By planting more trees
2. By causing changing in gravitational force
3. By changing the radiative balance governing the Earth
4. By protecting environment

55) Which one of the following is the anthropogenic radiative forcing of climate?

1. Aerosols
2. Cement
3. Paper
4. Glass

56) Which one of the following land use causes global warming?

1. Increase in the fertility of soil
2. Surface reflectance
3. Forestation
4. Adopting organic farming

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64) Which of the following do you think has the least impact of climate change in forests?

1. Change in quality and quantity of wood supply
2. Loss of biodiversity
3. Loss of forest based employment
4. Altered forest productivity

65) \_\_\_\_\_\_\_\_\_is the artificial modification of Earth’s climate systems through two primary ideologies, Solar Radiation Management (SRM) and Carbon Dioxide Removal (CDR).

1. Adaptation
2. Geo- engineering
3. Synchronization
4. Mitigation

66) Below which of the following pH is rain regarded as ‘acid rain’?

1. 7
2. 7.3
3. 5.6
4. 6

67) Which of the following gases are main contributors to acid rain?

1. Carbon dioxide and carbon monoxide
2. Sulphur dioxide and carbon dioxide
3. Sulphur dioxide and nitrogen dioxide
4. Sulphur dioxide and nitrous oxide

68) What is the pH required for the survival of aquatic animals and plants?

1. 7
2. 7.5
3. 6.5
4. 4.8

69) A non -directed physico chemical interaction between heavy metal ions and microbial surface is called

1. Biotransformation
2. bioconversion
3. biosorption
4. biomining

70) The \_\_\_\_\_\_\_\_\_\_ program for the cleanup of closed or abandoned hazardous waste sites is administered by EPA.

1. Superfund
2. HZAMAT
3. NPL
4. HPS

71) \_\_\_\_\_\_\_\_\_\_ soil remediation technology uses liquids and mechanical processes to scrub soils.

1. SVE
2. Soil washing
3. NPL
4. HPS

72) \_\_\_\_\_\_\_\_\_\_ soil remediation technology is used for remediating unsaturated soils contaminated with SVOC.

1. SVE
2. Soil washing
3. NPL
4. HPS

73) Which of the following technique is successful in treating petroleum hydrocarbons?

1. SVE
2. Soil washing
3. NPL
4. Landfarming

74) \_\_\_\_\_\_\_\_\_\_ reduces the mobility of hazardous substances and contaminants in the environment.

1. SVE
2. Soil washing
3. Solidification
4. Landfarming

75) \_\_\_\_\_\_\_\_\_\_ in situ remediation technology that combines elements of bioventing and vacuum-enhanced pumping.

1. Bioslurping
2. Soil washing
3. Asphalt batching
4. Vitrification

76) Anaerobic bacteria often play important roles in bioremediation. Which of the following is not an electron acceptor used by anaerobes during biodegradation reactions?

1. CO 2
2. NO 3-
3. Fe (III)
4. H 2 O

77) Which bioremediation approach involves mixing contaminated soil with water,carbon dioxide,and fertilizers in a bioreactor to stimulate biodegradation?

1. In situ hybridization
2. Slurry-phase bioremediation
3. Biopile treatment
4. In situ bioremediation

78) Which cleanup approach involves removing groundwater or soil from its natural setting to allow for bioremediation?

1. In situ bioremediation
2. Ex situ bioremediation
3. Bioaugmentation
4. Phytoremediation

79) During which stage of wastewater treatment is the primary effluent aerated to allow for biodegradation by aerobic microbes?

1. Sedimentation
2. Secondary treatment
3. Sludge digestion
4. Disinfection

80) Which bioremediation approach involves using plants to degrade pollutants?

1. Biopile
2. Phytoremediation
3. Composting
4. Land farming

81) Soil chemistry is considered an \_\_\_\_\_\_\_\_\_\_factor.

1. Topographic
2. Encontonal
3. Biological
4. Edaphic

82) The occurrence of pesticides like DDT in higher trophic levels is termed as \_\_\_\_\_\_\_.

1. Bioremediation
2. Biomagnification
3. Biological enhancement
4. Biopollution

83) Any unfavourable alteration of the environment may be called as \_\_\_\_\_\_.

1. Eutrophication
2. Environmental
3. Biomagnification
4. Bioacumulation

84) Which of the following technique is successful in treating petroleum hydrocarbons?

1. Reclamation of wastelands
2. Bioremediation of contaminated
3. Biological control of soil –borne
4. Gene transfer in higher plants

85) The main energy sources for the environment is \_\_\_\_\_\_\_.

1. Solar energy
2. Chemical energy
3. Bioelectric energy
4. Electrical energy

86) The phenomenon of accumulation of non – biodegradable pesticides in human beings\_\_\_\_\_\_\_\_.

1. Biomagnification
2. Bioaccumulation
3. Biodegradation

D. Bioremediation

87) What is the variable in the above research?

1. The brake ferm
2. The container
3. The soil
4. The method

88) Why might bioremdiation be selected for cleaning up a particular contaminated site?

1. Bioremediation is useful for cleaning up any kind of contain
2. Bioremediation is less destructive than some other methods
3. Using living things is the quickest method of cleanup
4. Using living things is preferred by all local citizens

89) What's could be done to prevent contamination from storage tanks near homes?

1. Have builder's test for soil pollution at sites before building.
2. Stop building new homes
3. Remove leaking storage tanks and dispose of then safely.
4. Move house to safer locations

90) An organic nutrient essential to an organism’s metabolism that cannot be synthesized itself is termed a/an:

1. Trace element
2. Micronutrient
3. Growth factor
4. Essential nutrient

91) The source of the necessary elements of life is:

1. An inorganic environmental reservoir
2. The sun
3. Rocks
4. The air

92) An organism that can synthesize all its required organic components from CO2 using energy from the sun is a:

1. Photoautotroph
2. Photoheterotroph
3. Chemoautotroph
4. Chemoheterotroph

93)An obligate halophile requires high:

1. pH
2. Temerperature
3. Salt
4. Pressure

94) Chemoautotrophs can survive on \_\_\_\_\_\_alone.

1. Minerals
2. CO2
3. Minerals and CO2
4. Methane

95) Which of the following statements is true for all organisms?

1. They require organic nutrients
2. They require inorganic nutrients
3. They require growth factors
4. They require oxygen gas

96)  A pathogen would most accurately be described as a:

1. Parasite
2. Commensal
3. Saprobe
4. Symbiont

97)  Which of the following is true of passive transport?

1. It requires a gradient
2. It uses the cell wall
3. It includes endocytosis
4. It only moves water

98) A cell exposed to hypertonic environment will \_\_\_\_\_by osmosis:

1. Gain water
2. Lose water
3. Neither gain nor lose water
4. Burst

99) Active transport of a substance across a membrane requires:

1. A gradient
2. The expenditure of ATP
3. Water
4. Diffusion

100) Psychrophiles would be expected to grow:

1. In hot springs
2. On the human body
3. At refrigeration temperatures
4. At low pH