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Roll No.

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**M.Sc. (Third Semester)
EXAMINATION, Dec. - Jan., 2021-22
BIOTECHNOLOGY
Paper Eleventh
(Environmental Biotechnology)**

[Time : Three Hours]

[Maximum Marks : 80]

[Minimum Pass Marks : 16]

Note : Attempt all sections as directed.

Section - A

(Objective/Multiple Choice Questions)

(1 mark each)

Note: Attempt all questions.

Choose the correct answer:

1. Depletion of the ozone layer is damaging to human health. Negative effects include -
 - (A) Skin cancers
 - (B) Osteoporosis
 - (C) Dyspepsia
 - (D) None of the above

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2. Greenhouse gases are those that absorb and emit infrared radiation. Example include -
 - (A) Nitrogen
 - (B) Ozone
 - (C) Argon
 - (D) None of the above
3. Carbon dioxide is primarily called a greenhouse gas because -
 - (A) Traps heat
 - (B) Traps light
 - (C) Traps warm currents
 - (D) None of the above
4. Lichens are good bioindicators for -
 - (A) Environmental radiation
 - (B) Soil Pollution
 - (C) Water and air pollution
 - (D) None of the above
5. The presence of _____ in a water body is an indicator of water pollution .
 - (A) Zygosporangium
 - (B) E.Coli
 - (C) Deinococcus radiodurans
 - (D) None of the above

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6. Cosmic rays, such as gamma rays are a source of -
- (A) Soil Pollution
 - (B) Noise Pollution
 - (C) Thermal Pollution
 - (D) Radiation Pollution
7. Which of the following facts is incorrect?
- (A) Global warming is the rise in the average temperature of the earth's climate system
 - (B) Eutrophication is observed in water bodies
 - (C) The greenhouse effect is a natural phenomenon
 - (D) Ozone is harmless to breathe
8. Which of the following rivers is called the world's most polluted river?
- (A) Ganga River
 - (B) Chenab River
 - (C) Cauvery River
 - (D) Yamuna River
9. Which of the following techniques is used for reducing the Total Dissolved Solids (TDS) in the water?
- (A) Osmosis
 - (B) Ion exchange
 - (C) Distillation
 - (D) Both (B) and (C)

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10. Which of the following salts is the main cause of permanent hardness of water?
- (A) Magnesium sulphate
 - (B) Magnesium bicarbonate
 - (C) Magnesium carbonate
 - (D) None of the above
11. Chlorofluorocarbon are nonflammable chemicals mainly used in _____ .
- (A) Perfumes
 - (B) Refrigerators
 - (C) Air conditioners
 - (D) All of the above
12. Which of the following is a waterborne disease?
- (A) Typhoid
 - (B) Cholera
 - (C) Diarrhoea
 - (D) All of the above
13. Which of the following is not a waterborne disease?
- (A) Measles
 - (B) Typhoid
 - (C) Cholera
 - (D) Hepatitis

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14. Which of the following pollutants are responsible for the cause of SMOG?
- (A) From incinerators
 - (B) Emissions from vehicles
 - (C) Both incinerators and emissions from vehicles
 - (D) None of the above
15. Which of the following particles is called the particulate pollutants?
- (A) Ozone
 - (B) Radon
 - (C) Fly Ash
 - (D) Ethylene
16. In which temperature soil develops slowly?
- (A) Summer
 - (B) Wind
 - (C) Rainy
 - (D) Cold
17. What is called for the matured soils which are arranged in series of zones?
- (A) Soil zones
 - (B) Soil layers
 - (C) Soil horizons
 - (D) Soil benches

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18. Negative soil pollution is -
- (A) reduction in soil productivity due to erosion and over-use
 - (B) reduction in soil productivity due to addition of pesticides and industrial wastes
 - (C) converting fertile land into harden land by dumping ash, sludge and garbage
 - (D) None of the above
19. The layer of atmosphere between 10km to 50km above the sea level is called as -
- (A) troposphere
 - (B) thermosphere
 - (C) stratosphere
 - (D) mesosphere
20. Brewery and sugar factory waste alter the quality of a water body by increasing -
- (A) temperature
 - (B) turbidity
 - (C) pH
 - (D) COD and BOD

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Section - B

(Very short answer type questions)

(2 marks each)

Note : Attempt all questions. Answer in two or three sentences.

1. What is UV-B?
2. What is sludge?
3. What is anaerobic?
4. What is trickling filter?
5. What is Acid rain?
6. What is oil pollution?
7. What are blanket reactors?
8. What is Ozone?

Section - C

(Short answer type questions)

(3 marks each)

Note : Attempt all questions. Answer precisely using 50-75 words.

1. What is environmental biotechnology used for?
2. What are some examples of environmental biotechnology?

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3. How is biotechnology used to clean and protect our environment?
4. What is biotechnology in environmental science?
5. What are surfactants?
6. What is antibiotic?
7. What is tannery?
8. What is rotating drum?

Section - D

(Long answer type questions)

(5 marks each)

Note - Attempt all questions. Answer precisely using 150 words.

1. Write an essay on Basic concepts and issues of environment.
2. Describe Anaerobic process of waste water treatment.
3. Write on Bioremediation.
4. Explain the role of National organization in Biotechnology.