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VIP

Biology
Unit 1

Grade 12

Application in Conservation of Natural Resources

1. **What is the primary goal of conservation biology?*

- A) Increase biodiversity
- B) Combat climate change
- C) Manage natural resources sustainably
- D) All of the above

Answer: D) All of the above

2. **What does the term "biodiversity" refer to?*

- A) Variety of species in an ecosystem
- B) Number of individuals in one species
- C) The way organisms reproduce
- D) Only plants in a forest

Answer: A) Variety of species in an ecosystem

3. **Which of the following is a method of sustainable resource management?*

- A) Monoculture farming
- B) Reforestation
- C) Overfishing
- D) Urban sprawl

Answer: B) Reforestation

4. **What is the purpose of a wildlife corridor?*

- A) To trap animals
- B) To reduce pollution
- C) To connect fragmented habitats
- D) To increase road access

****Answer:**** C) To connect fragmented habitats

5. ****Which of the following practices is harmful to biodiversity?*****

- A) Crop rotation
- B) Habitat destruction
- C) Aquaculture
- D) Ecotourism

****Answer:**** B) Habitat destruction

6. ****Which term describes the extinction of a species?*****

- A) Population decline
- B) Biodiversity loss
- C) Environmental degradation
- D) None of the above

****Answer:**** D) None of the above

7. ****What is the role of conservation genetics?*****

- A) Study the genetic variation within species
- B) Reproduce species in captivity
- C) Cultivate crops with desired traits

- D) Identify new species

****Answer:**** A) Study the genetic variation within species

8. ****Which legislation is designed to protect endangered species in the United States?*****

- A) Clean Air Act

- B) Endangered Species Act

- C) National Environmental Policy Act

- D) Marine Mammal Protection Act

****Answer:**** B) Endangered Species Act

9. ****Which practice promotes conservation in agriculture?*****

- A) Pesticide use

- B) Agroforestry

- C) Soil depletion

- D) Intensive cropping

****Answer:**** B) Agroforestry

10. ****What is ecological restoration?*****

- A) The process of removing invasive species

- B) Maintaining biodiversity

- C) Rehabilitating damaged ecosystems

- D) Reducing climate change

****Answer:**** C) Rehabilitating damaged ecosystems

Application in Food and Nutrition Security

11. **What is 'food security'?**

- A) Enough food production for export
- B) Access to sufficient, safe, and nutritious food
- C) Food accessible only to certain populations
- D) None of the above

Answer: B) Access to sufficient, safe, and nutritious food

12. **Which of the following is considered a staple food?**

- A) Rice
- B) Chocolate
- C) Candy
- D) Fast food

Answer: A) Rice

13. **What agricultural practice helps improve soil fertility?**

- A) Overgrazing
- B) Cover cropping
- C) Deforestation
- D) Monoculture

Answer: B) Cover cropping

14. ****What is genetically modified (GM) food?***

- A) Natural food
- B) Food with added preservatives
- C) Food altered using biotechnology
- D) Organic food

****Answer:**** C) Food altered using biotechnology

15. ****Which nutrient is most important for growth and repair of body tissues?***

- A) Carbohydrates
- B) Proteins
- C) Fats
- D) Vitamins

****Answer:**** B) Proteins

16. ****What does the term "sustainable agriculture" mean?***

- A) Using harmful pesticides
- B) Farming practices that protect environmental health
- C) Only focusing on crop yield
- D) None of the above

****Answer:**** B) Farming practices that protect environmental health

17. ****Which microorganism is commonly used in fermentation?***

- A) Lactic acid bacteria
- B) Fungi

- C) Yeast
- D) All of the above

****Answer:**** D) All of the above

18. ****Which vitamin is primarily obtained from sunlight?***

- A) Vitamin A
- B) Vitamin B12
- C) Vitamin C
- D) Vitamin D

****Answer:**** D) Vitamin D

19. ****What is the primary role of pollinators in food production?***

- A) Control pests
- B) Help in the reproduction of plants
- C) Enhance soil fertility
- D) None of the above

****Answer:**** B) Help in the reproduction of plants

20. ****What is agroecology?***

- A) A type of machinery
- B) Study of ecological processes in agriculture
- C) The use of chemicals in farming
- D) Urban farming

****Answer:**** B) Study of ecological processes in agriculture

21. **What is the primary source of energy in a healthy diet?*

- A) Proteins
- B) Carbohydrates
- C) Fats
- D) Minerals

Answer: B) Carbohydrates

22. **What is food sovereignty?*

- A) Rights of nations to control their own food systems
- B) Global trade of food
- C) Food available only in certain regions
- D) None of the above

Answer: A) Rights of nations to control their own food systems

23. **Which organization is primarily focused on ending hunger and improving nutrition globally?*

- A) FDA
- B) WHO
- C) FAO
- D) CDC

Answer: C) FAO (Food and Agriculture Organization)

24. **Which crop is considered a major source of protein in developing countries?*

- A) Wheat
- B) Maize
- C) Soybeans
- D) Rice

****Answer:**** C) Soybeans

25. ****What is the main benefit of crop rotation?*****

- A) Increased crop yields
- B) Reduced soil fertility
- C) Prevention of pest and disease buildup
- D) Higher dependence on fertilizers

****Answer:**** C) Prevention of pest and disease buildup

Creating Conscious Citizens and Ensuring Sustainability

26. ****What is environmental awareness?*****

- A) Knowing about environmental issues
- B) Ignoring pollution
- C) Encouraging waste production
- D) None of the above

****Answer:**** A) Knowing about environmental issues

27. **Which concept emphasizes the importance of individual and community responsibility towards the environment?*

- A) Consumerism
- B) Environmental stewardship
- C) Industrialization
- D) Globalization

Answer: B) Environmental stewardship

28. **What does sustainable development aim to achieve?*

- A) Economic growth at the expense of the environment
- B) Meeting the needs of the present without compromising future generations
- C) Depletion of natural resources
- D) Rapid industrialization

Answer: B) Meeting the needs of the present without compromising future generations

29. **Which of the following activities contributes to a sustainable lifestyle?*

- A) Using single-use plastics
- B) Recycling materials
- C) Overconsumption
- D) Burning fossil fuels

Answer: B) Recycling materials

30. **What is civic responsibility?*

- A) Participating in government

- B) Ignoring local issues
- C) Only voting in elections
- D) None of the above

****Answer:**** A) Participating in government

31. ****Education for Sustainable Development (ESD) focuses on:****

- A) Traditional teaching methods
- B) Promoting awareness and skills for sustainable living
- C) Increasing consumer products
- D) None of the above

****Answer:**** B) Promoting awareness and skills for sustainable living

32. ****Which group is primarily responsible for protecting the environment in a community?****

- A) Local government
- B) Individual citizens
- C) Environmental organizations
- D) All of the above

****Answer:**** D) All of the above

33. ****Which term describes the reduction of waste through minimizing, reusing, and recycling?****

- A) Waste management
- B) Waste creation
- C) Circular economy

- D) Landfill expansion

****Answer:**** C) Circular economy

34. ****Which of the following is an example of a renewable resource?***

- A) Coal

- B) Natural gas

- C) Solar energy

- D) Nuclear power

****Answer:**** C) Solar energy

35. ****What is the principle behind permaculture?***

- A) Intensive monoculture

- B) Creating agricultural ecosystems that mimic natural ecosystems

- C) Using only chemical fertilizers

- D) None of the above

****Answer:**** B) Creating agricultural ecosystems that mimic natural ecosystems

Application in Biotechnology

36. ****What does biotechnology primarily involve?***

- A) Use of traditional farming techniques

- B) Manipulation of living organisms for specific purposes

- C) Chemical manufacturing

- D) Mining resources

****Answer:**** B) Manipulation of living organisms for specific purposes

37. ****What is a genetically modified organism (GMO)?****

- A) An organism modified through traditional breeding
- B) An organism modified using genetic engineering techniques
- C) Any organism living in a lab
- D) A type of new species

****Answer:**** B) An organism modified using genetic engineering techniques

38. ****Which of the following is a major benefit of biotechnology in agriculture?*****

- A) Increased pesticide use
- B) Higher crop yields
- C) Reduced soil health
- D) Lower biodiversity

****Answer:**** B) Higher crop yields

39. ****What is CRISPR technology used for?*****

- A) Food preservation
- B) Genetic editing
- C) Farming techniques
- D) Water purification

****Answer:**** B) Genetic editing

40. ****Which of the following is a disadvantage of using GMOs?*****

- A) Increased food security
- B) Potential allergenicity
- C) Economic benefits for farmers
- D) Resistance to pests

****Answer:**** B) Potential allergenicity

41. ****What role do biofuels play in sustainability?***

- A) They are derived from fossil fuels
- B) They contribute to greenhouse gas emissions
- C) They provide renewable energy alternatives to fossil fuels
- D) They require extensive land use

****Answer:**** C) They provide renewable energy alternatives to fossil fuels

42. ****Which field involves the use of microorganisms to clean up environmental pollutants?***

- A) Environmental degradation
- B) Bioremediation
- C) Genetic engineering
- D) Industrial pollution

****Answer:**** B) Bioremediation

43. ****What is the primary goal of tissue culture in biotechnology?***

- A) To create new species
- B) To grow plant cells in artificial conditions for propagation

- C) To preserve biodiversity
- D) To study animal behavior

****Answer:**** B) To grow plant cells in artificial conditions for propagation

44. ****Biotechnology can enhance food security by:****

- A) Reducing crop diversity
- B) Increasing pest resistance in crops
- C) Requiring more rainfall
- D) None of the above

****Answer:**** B) Increasing pest resistance in crops

45. ****What is the purpose of genetic testing in medicine?*****

- A) To treat patients
- B) To prevent diseases by understanding genetic risks
- C) To create new drugs
- D) None of the above

****Answer:**** B) To prevent diseases by understanding genetic risks

46. ****What is a significant ethical concern related to biotechnology?*****

- A) Increased agricultural productivity
- B) The safety of GMOs for human consumption
- C) Reduced use of fertilizers
- D) Environmental restoration

****Answer:**** B) The safety of GMOs for human consumption

47. **Which organism is commonly used in the production of insulin?*

- A) Plants
- B) Fungi
- C) Bacteria
- D) Animals

Answer: C) Bacteria

48. **Biotechnology plays a role in which of the following fields?*

- A) Medicine
- B) Agriculture
- C) Environmental science
- D) All of the above

Answer: D) All of the above

49. **What are probiotics?*

- A) Genetically modified organisms
- B) Live microorganisms that provide health benefits
- C) Harmful bacteria
- D) Only found in yogurt

Answer: B) Live microorganisms that provide health benefits

50. **Which of the following applications of biotechnology is used to improve crop resistance to climate change?*

- A) Crop rotation
- B) Genetic engineering
- C) Organic farming
- D) Livestock breeding

****Answer:**** B) Genetic engineering