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ከHIGH SCHOOL እስከ CAMPUS
አብረናችሁ ነን !



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2024



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About us

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questions

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GRADE 12 UNIT-1 BIOLOGY BY QESEM ACADEMY.

1. Which of the below alternatives best explains why biological science is a very useful science?
 - A. It helps us understand the living world
 - B. It protects us from being manipulated by others
 - C. It makes us understand our modern technological society
 - D. It helps us understand astronomical objects and phenomena
2. Which of these is a practical application of biology with which most people are familiar with?
 - A. Hand washing
 - B. Fermentation
 - C. Tissue culture
 - D. Waste dumping
3. Which of the following statements applies to renewable natural resources?
 - A. They can be harvested at any rate without harming future supplies
 - B. They can replenish to replace the portion depleted by consumption
 - C. Earth minerals and metal ores are examples of renewable resources
 - D. They are natural resources whose stock or reserve is limited or fixed
4. What is the primary difference between renewable resources and non-renewable resources?
 - A. How fast they are being used up or consumed
 - B. How easily they are discovered and extracted
 - C. The amount and quality of the available resource
 - D. The length of time it takes for them to be replenished
5. Which of the below terms refers to the careful maintenance and wise use of natural resources to prevent them from disappearing?.
 - A. Conservation
 - B. Preservation
 - C. Bioremediation
 - D. Reforestation
6. Which branch of biology is a mission-oriented science that focuses on how to protect and restore biodiversity?.
 - A. Restoration ecology
 - B. Conservation biology
 - C. Environmental economics
 - D. Nutrition ecology
7. Which natural resource is conserved by recycling paper?
 - A. Animals

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- B. Petroleum
- C. Trees
- D. Coal

8. One of the following is the application of using living organism or their products from another living organism for the development of products that benefit humans.

- A. Biotechnology
- B. Genetic engineering
- C. Cell biology
- D. Biosensors

9. What term refers to the availability of food in a country and the ability of individuals within that country to access, afford, and source adequate foodstuff?.

- A. Food security
- B. Social security
- C. Balanced diet
- D. Economic equality

10. One of the below is NOT a barrier that stands in the way of food security?

- A. Climate change
- B. Political instability
- C. Population growth
- D. Crop modification

11. All of the following are ways by which biology plays a key role in ensuring food security EXCEPT

- A. Development of micronutrient-dense staple crops
- B. Improving food processing and storage techniques
- C. Developing new products that can combat malnutrition
- D. Clearing forests to make more room for crop production

12. What do we call a person who places value on being fully human while connecting with a higher purpose?

- A. Global citizen
- B. Patriotic citizen
- C. Conscious citizen
- D. Responsible citizen

13. Which of the following is a way through which conscious global citizens in Ethiopia involve in sustainable development?.

- A. Recording and monitoring extinct species
- B. Increasing exotic plant richness in our country
- C. Disregarding traditional land management systems

- D. Analyzing soil, water and air for chemical pollution
14. Select the statement that describes conscious citizen biologists accurately
- A. They develop traditional and overpriced technologies
 - B. They develop technologies that reduce waste production
 - C. They develop technologies that consume more resources
 - D. They invent technologies that do not incorporate recycling
15. Which of the following terms indicates the application of technologies that involve the use of living organisms, or products from living organisms, for the development of products that benefit humans?.
- A. Agriculture
 - B. Biotechnology
 - C. Bioinformatics
 - D. Genome editing
16. How is biotechnology used in the prevention and mitigation of contaminants from municipal wastes?
- A. By converting municipal wastes to useful products like biofuel
 - B. By releasing harmful organic contaminants into rivers and streams
 - C. By accumulating the population of bacteria in aquatic ecosystems
 - D. By using chemical coagulants that are based on aluminium or iron
17. Which of the following is a protein-rich meat-substitute derived from fungi?
- A. Pruteen
 - B. Sausage
 - C. Spirulina
 - D. Mycoprotein
18. What microorganism is the main driving force behind several industrial food fermentation processes?
- A. Yeast
 - B. Mold
 - C. Archaea
 - D. Protozoa
19. What dairy product is made by adding *Streptococcus thermophilus* and *Lactobacillus bulgaricus* to milk?
- A. Yogurt
 - B. Sour cream
 - C. Fermented milk
 - D. Cultured buttermilk

20. What is *Methylophilus methylotrophus* used for?
- A. It is used for the production of fermented dairy foods
 - B. It is used in the production of antibiotics and vaccines
 - C. It is used for the production of Pruteen from methanol
 - D. It is used to transfer a segment of DNA into plant genome
21. Which of these is an economical method for adding flavour and extending the shelf-life of traditional meat products?.
- A. Drying
 - B. Cold storage
 - C. Fermentation
 - D. Vacuum packaging
22. What are the basic stages or steps in making wine from grapes?
- A. Clarification → Crushing and pressing → Fermentation → Aging and bottling
 - B. Fermentation → Clarification → Crushing and pressing → Aging and bottling
 - C. Crushing and pressing → Clarification → Fermentation → Aging and bottling
 - D. Crushing and pressing → Fermentation → Clarification → Aging and bottling
23. The alcohol content of Scotch whiskey ranges from 40 to 50% much higher than the typical 12% for wine and 6% for beer. Which process is responsible for the higher alcohol content of Scotch whiskey?
- A. Fermentation
 - B. Germination
 - C. Distillation
 - D. Decomposition
24. Which of the below is NOT the role and importance of yeast in the baking industry?
- A. It decreases the shelf-life of the products
 - B. It provides flavor and aroma to the bread
 - C. It gives the dough a light, sponge-like texture
 - D. It contributes to the nutritional value of bread
25. Which term refers to the process that uses laboratory-based technologies to alter the DNA makeup of an organism?.
- A. Cloning
 - B. Tissue culture
 - C. Genetic engineering
 - D. Spontaneous generation
26. During bioremediation via microorganisms, enzymes produced by a microorganism modify a toxic pollutant by altering its structure. What is this event called?
- A. Bioleaching

- B. Biodegradation
- C. Bioamplification
- D. Biotransformation

27. Many pollutants gradually break down into their component parts due to the action of saprophytic microorganisms. What do we call this process of cleaning up pollutants?

- A. Composting
- B. Bioleaching
- C. Biodegradation
- D. Bioremediation

28. What are the two ways to produce methane in methanogenesis step?

- A. Converting CO and CO₂ into CH₄
- B. Converting CH₄ into CO and CO₂
- C. Converting CO₂ and acetic acid into CH₄
- D. Converting CO and acetic acid into CH₄

29. What are the two main products of anaerobic digestion of organic waste?

- A. Methane and carbon dioxide
- B. Hydrogen and carbon dioxide
- C. Methane and carbon monoxide
- D. Carbon monoxide and hydrogen

30. What is the main constituent of biogas?

- A. Methane
- B. Hydrogen
- C. Carbon dioxide
- D. Hydrogen sulphide

31. Which of the following is NOT an objective of composting?

- A. Reduction of mass
- B. Elimination of toxic substances
- C. Stabilization
- D. Incineration

32. Which of the below is NOT the benefit of using biopesticides?

- A. They produce little toxic residue
- B. They are natural ways to control pests
- C. They are of minimal risk to human health
- D. Their production needs technical knowledge

33. When added to fruit tissue, what enzyme breaks down the tissue, releasing sugars in solution and making the liquid extract clear?.

- A. Cellulase
- B. Protease
- C. Pectinase
- D. Esterase

34. What two enzymes do biological washing powders contain?

- A. Pectinase and Esterase
- B. Amylase and Nuclease
- C. Lipase and Pectinase
- D. Protease and Lipase

35. Biological washing powders remove stains by enzyme action Which of the following combinations would be most effective in removing an egg stain?.

- A. Amylase and Protease
- B. Catalase and Lipase
- C. Lipase and Maltase
- D. Lipase and Protease

36. How are plants made resistant to glyphosate?

- A. By preventing weeds from making certain proteins that are needed for their growth
- B. By introducing a soil bacterium gene that produces a glyphosate degrading enzyme
- C. By transferring a gene from *Bacillus thuringiensis* into the genome of the plant cells
- D. By genetically modifying plants to absorb Glyphosate through their leaves and roots

37. One of the following is the use of living organism or their products for the detoxification and degradation of environmental pollutants.

- A. Bioengineering
- B. Bioremediation
- C. Biotransformation
- D. Biosensors

38. What is the technique in which the nucleus of a somatic cell is transferred to the cytoplasm of an enucleated egg cell called?.

- A. Tissue culture
- B. Embryo twinning
- C. Genetic engineering
- D. Somatic cell nuclear transfer

39. Dolly was cloned from a mammary cell of a Finn Dorset white sheep and an egg cell taken from a Scottish Blackface sheep. Her surrogate mother was a Scottish Blackface sheep What was Dolly's coat color?

- A. Brown
- B. White

- C. Black
- D. Spotted

40. Some 20 years ago, anthrax spores were mailed through the U.S. postal service system and caused 18 confirmed cases of anthrax. Five people with inhalation anthrax died. What does this situation exemplify?

- A. Proxy war
- B. Bioterrorism/Biological warfare
- C. Intoxication
- D. Biological control

41. Waste water is best described as

- A. Water that you can cook with
- B. Water that goes down your drain or toilet
- C. Water in a local pond
- D. River water

42. Which one of the following belongs to non-renewable natural resource?

- A. Salt
- B. Water
- C. Wind
- D. Sun

43. Food security is ensured only if

- A. large technology is used
- B. garden plantation is applied
- C. barrier exist to access food
- D. enough food is available for all

44. Which one of the following belongs to social equity in a model for sustainable development?

- A. Preserving biodiversity
- B. Income quality
- C. Demand satisfaction
- D. Viability of companies

45. Biology has a vital role in creating conscious citizen by

- A. expanding awareness of the society
- B. minimizing practical applications
- C. initiating citizens to negative impact
- D. avoiding the use of modern technology

46. The scientific study of heredity and variation of inherited characteristics is called

- A. Genetics

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- B. Physiology
- C. Anti- aging medicine
- D. Caloric restriction

47. Which is the most useful change made to crops using applications of biotechnology?

- A. Crops use more nutrients
- B. Crops resist more disease
- C. Crops need more fertilizer
- D. Crops take more time to grow

48. Which area of biotechnology would most likely to use in ethical issues with human society?

- A. Insulin production by bacteria
- B. Genetic engineering to improve agriculture yields
- C. Organ cloning for use in trans plants
- D. DNA and forensic testing of crime scene evidence

49. One of the following is used to investigate crime by using blood, saliva and hair

- A. Health science
- B. Physical science
- C. Forensic science
- D. Ecology

Answer

1,A 2,A 3,B 4,D 5,A 6,B 7,C 8,A 9,A 10,D
11,D 12,C 13,D 14,B 15,B 16,A 17,D 18,A 19,A 20,C
21,C 22,C 23,C 24,A 25,C 26,D 27,C 28,C 29,A 30,A
31,D 32,A 33,C 34,D 35,D 36,B 37,B 38,D 39,B 40,B
41,B 42,A 43,D 44,B 45,A 46,A 47,B 48,D 49,C