2016E.C 3rd Quarter After Class Biology Group work – One for Grade 12

I. Choose the best answer for the following question from the given alternatives

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

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

2. Food security is ensured only if

   A. Large technology is used
   B. Barrier exist to access food
   C. garden plantation is applied
   D. enough food is available for all

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

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

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

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

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

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

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

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

7. Which area of biotechnology would most likely create 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

8. When DNA is manipulated and moved from one source to another it is known as

   A. genetic engineering
   B. gene therapy
   C. genetically modified organisms
   D. electrophoresis

9. Organism that contains genes from other organisms are called.

   A. Polygenic
   B. Transgenic
   C. Mutagenic
   D. Donors

10. One of the following is the example of an antibiotic.

   A. Vaccine
   B. Penicillin
   C. Pathogen
   D. Antibody

11. Which of the following disease is correctly matched with its causative agent?

   A. Malaria - female anopheles mosquito.
   B. Leishmaniasis - Schistosoma mansoni
   C. Tuberculosis -Mycobacterium leprae
   D. Taeniasis - Taenia saginata

12. Which part of a bacterial cell could be primarily attacked and destroyed by antibiotics?

   A. DNA
   B. Cytoplasm
   C. Cell Membrane
   D. Cell Wall

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

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

14. 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
15. One of the following is the use of living organism or their products for the detoxification and degradation of environmental pollutants
    A. Bioengineering
    B. Biotransformation
    C. Bioremediation
    D. Biosensors
16. 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. Cell biology
    C. Genetic engineering
    D. Biosensors
17. The main goal of using biological warfare in modern conflict is to
    A. Promote peace and cooperation.
    B. Improve public health in the affected area.
    C. Provide medical aid to the enemy.
    D. Kill the enemy using disease- causing microorganisms or their toxins.
18. Which one of the following belongs to the general characteristics of bacteria.
    A. They are multicellular organisms.
    B. They have similar mode of nutrition.
    C. They lack membrane bounded organelles.
    D. Their locomotion is by pseudopodia.
19. If you saw a rod-shaped bacteria under microscopic observation, then these bacteria belongs to _____ bacteria.
    A. Cocci B. Spirochaetes C. Bacilli D. Comma
20. Which of the following is commonly contaminated by Mucor
    A. Bread B. Meat C. Cereals D. Rice

21. Penicillin is an antibiotic that acts upon bacteria by

    A. Acting on the nucleus of bacteria.
    B. Blocking the bacterial cell wall formation.
    C. Breaking the cell membrane of the bacteria.
    D. Preventing DNA formation
22. Which one of the following is the best reason in that treating viral infection is more difficult than bacterial infection,

    A. Viruses are smaller in size than bacteria
    B. Viruses have no cell wall
    C. Viruses have fewer targets for drugs.
    D. Bacteria have peptidoglycan.

23. Which one of the following protozoan disease is more common in Ethiopia?

    A. Malaria B. Trichuriasis C. Amoebiasis D. trypanosomiasis
24. Which of the following is a beneficial microorganism to make bread?
    A. Bread mould
    B. Asperigillus
    C. Penicillium
    D. Yeast
25. What should you do if you want to make safe an orange from mould?
    A. Buying from different market place.
    B. Putting the orange in a warm place.
    C. Staying the orange in a dark room.
    D. Keeping the orange in a refrigirator.

26. Which of the following is the dark structure found at the tip of growing bread mould?
   A. Sporangium
   B. Spores
   C. Mycelium
   D. Hyphae
27. Which one of the following organism is grouped under the evolutionary line of archaea.
   A. Fungi
   B. Methanococcus
   C. Spirochetes
   D. Chloroflexi
28. Which of the following is correct with regard to gram negative bacteria?
   A. Have narrow periplasmic space
   B. Have porein proteins.
   C. Have thicker cell wall.
   D. Gram negative results in pink color
29. Which one of the following is the correct step in gram staining?
   A. Fixation-----Iodine treatment-----Crystal violet-----Decolonization-----Staining with Safranin
   B. Fixation-----Staining with Safranin -----Crystal violet-----Decolonization----- Iodine treatment
   C. Fixation-----Crystal violet-----Iodine treatment-----Decolonization----- Staining with Safranin
   D. Fixation-----Iodine treatment-----Crystal violet----- Staining with Safranin-----Decolonization
30. Syphilis is a bacterial disease caused by
   A. Treponema pallidum
   B. Salmonella typhi
   C. Mycobacterium tuberculosis
   D. Bordetella pertusis

31. W/c of the following are organisms that use reduced inorganic substances as their electron Sources?

   A. Lithotrophes
   B. Organotrophes
   C. Chemohetrotrophes
   D. Photoautotrophes

32. Bacteria that live in very saline environment are

   A. Acidophiles
   B. Psychrophiles
   C. halophiles
   D. thermophiles
33. Which of the following fungi belongs to Basidiomycota
   A. Mucor B. Yeast C. Smut D. Rhizopus
34. One of the following is a harmful aspect of fungi
   A. Molds that cause deterioration of leather
   B. Yeasts that ferment 'Tej'
   C. Asperigillus species that produce oxalic acid
   D. Mushrooms that serve as a source of food
35. Thrush is a fungal disease caused by
   A. Trichophyton rubrum
   B. Asperigillus fumigatus
   C. Candida albicans
   D. Microsporum canis
36. W/c one of the following protozoan category has d/t asexual form of reproduction from the rest
   A. Flagellates
   B. Ciliates
   C. Amebae
   D. Sporozoa
37. Leishmaniasis is a disease transmitted by
   A. Sand fly
   B. Tsetse fly
   C. Black fly
   D. House fly
38. Which one of the following is a characteristic of virus.
   A. Nucleic acid of a viral genome contains both DNA and RNA.
   B. They can be grown on artificial cell free media.
   C. They possess enzymes necessary for protein synthesis
   D. Viruses are inert filterable agents.
39. Covid-19 is a contagious disease caused by
   A. protozoa
   C. virus

B. bacteria D. fungi

40. Attachment of virus to host cell is called
A. adsorption C. synthesis
B. maturation D. penetration

41. Which of the following is true with regard to normal microbiota
A. produce toxic compounds to other bacteria
B. are not found in healthy individuals.
C. usually affect healthy individuals.
D. should be avoided by taking antibiotics.

42. Cholera is a disease transmitted by
A. sexual intercourse C. direct body contact
B. drinking contaminated water D. blood-to-blood contact

43. Which of the following terms refer to a comma shaped prokaryotic cell
A. vibrio C. spirillum
B. coccus D. cocco bacilli

44. One of the following is a type of metabolism reaction that leads to the synthesis of larger biomolecules
A. Catabolic reactions C. Metabolic pathway
B. Anabolic reactions D. Metabolism

45. Which of the following is true of metabolism in its entirety?
A. Metabolism depends on a constant supply of energy from food
B. Metabolism depends on an organism's adequate hydration
C. Metabolism is a property of an organism's life
D. Metabolism utilizes all of an organism's resources

46. Which of the steps in cellular respiration is anaerobic process?
A. Krebs cycle C. Glycolysis
B. Electron transport chain D. Link reaction

47. In which of the following cell structure metabolism begins?
A. Mitochondria C. Cell Cytosol
B. Nucleus D. Chloroplast

48. What are the products of Krebs cycle?
A. Two pyruvate molecules C. Glucose and oxygen
B. CO_2, ATP, NADH, and $FADH_2$ D. ADP and H_2O

49. In which part of chloroplast does light dependent reaction of photosynthesis take place?
A. Inter membrane space C. Stroma
B. Thylakoid D. On the inner membrane surface

50. The reaction in which Acetyl CoA formed is _____
A. Link reaction C. Lactic acid fermentation
B. glycolysis D. Krebs's cycle

51. One of the following is ATP production by direct enzymatic transfer of phosphate from an intermediate substrate in catabolism to ADP.
A. Substrate –level phosphorylation C. Electron transport chain
B. Oxidative phosphorylation D. hydrolysis

52. One of the following is the sum of chemical reactions that takes place within each cell of living organism.
A. Cellular respiration C. Metabolism
B. Catabolism D. Anabolism

53. Where organisms get energy to do work?
A. Solar energy C. Thermal energy
B. Chemical energy D. Nuclear energy

54. Which of the following is true for anabolic pathway?

A. They do not depend on enzyme
B. They are usually spontaneous chemical reactions
C. They consume energy to build polymers from monomers
D. They release energy as they degrade polymers to monomers

55. One of the following is the main cellular energy molecule.
A. ATP B. AMP C. ADP D. NADH2
56. During cellular respiration, where is energy stored in ATP?
A. Between phosphate bonds C. In sugar
B. In oxygen D. In nitrogenous base
57. In what step of cellular respiration glucose is broken down to Pyruvic acid?
A. Aerobic respiration C. Electron transport chain
B. Glycolysis D. Krebs cycle
58. How would you describe cellular respiration?
A. Sunlight and CO_2 make ATP
B. ATP and O_2 are used to make sugar
C. ATP and CO_2 are used to make ADP and water
D. Carbon- based molecules from food and oxygen are used to make ATP
59. What is the equation for aerobic cellular respiration?
A. $C_6H_{12}O_6 + 6O_2 = 6CO_2 + 6H_2O$ +energy
B. $6CO_2 + 6H_2O = 6O_2 + C_6H_{12}O_6$
C. $C_6H_{12}O_6 + 6CO_2 = 6O_2 + 6H_2O$
D. $C_6H_{12}O_6 + 6H_2O = 6O_2 + 6CO_2$
60. In which of the following organelle does aerobic cellular respiration happen?
A. Nucleus C. Chlorophyll
B. Mitochondria D. Chloroplast
61. During aerobic respiration, from which process does most of the ATP molecules is produced?
A. Krebs cycle C. Conversion of glucose to pyruvate
B. Substrate level phosphorylation D. Chemiosmotic phosphorylation
62. Which of the following is NOT a stage of cellular respiration?
A. Krebs cycle C. Glycolysis
B. Electron transport D. Fermentation
63. Which of the following processes takes place in the cytoplasm of a cell?
A. Glycolysis C. Electron transport
B. Krebs cycle D. Acetyl CoA formation
64. In cellular respiration, high-energy electrons that move down the electron transport chain ultimately provide the energy needed to
A. Transport water molecules across the membrane
B. Convert ADP molecules in to ATP molecules
C. Convert carbon dioxide into water molecules
D. Break down glucose into pyruvic acid molecules
65. In which of the following lactic acid fermentation occurs?
A. Bread dough C. Muscle cells
B. Any environment containing oxygen D. Mitochondria