

LIDETA SUB CITY ADMINISTRATION EDUCATION OFFICE GRADE 12 BIOLOGY MODEL EXAMINATIONS 2016E.C/ 2024G.C

NUMBER OF QUESTIONS: 100

TIME ALLOWED: - 2 HOURS

GENERAL DIRECTIONS

THIS BOOKLET CONTAINS EXAMINATION **BIOLOGY**. IN THIS EXAMINATION, THERE ARE A TOTAL OF 100 MULTIPLE CHOICE QUESTIONS. CAREFULLY SELECT THE BEST ANSWER AND BLACKEN ONLY THE LETTER OF YOUR CHOICE ON THE SEPARATE ANSWER SHEET PROVIDED. FOLLOW THE INSTRUCTIONS ON THE ANSWER SHEET AND THE EXAMINATION PAPER CAREFULLY. USE ONLY PENCIL TO MARK YOUR ANSWERS. YOUR ANSWER MARK SHOULD BE HEAVY AND DARK, COVERING THE ANSWER SPACE COMPLETELY. PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY FROM YOUR ANSWER SHEET.

YOU ARE ALLOWED TO WORK ON THE EXAM FOR 2 HOURS. WHEN TIME IS CALLED, YOU MUST IMMEDIATELY STOP WORKING, PUT YOUR PENCIL DOWN, AND WAIT FOR FURTHER INSTRUCTIONS.

ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT IN THE EXAMINATION WILL RESULT IN AN AUTOMATIC DISMISSAL FROM THE EXAMINATION HALL AND CANCELLATION OF YOUR SCORE (S).

PLEASE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE ANSWER SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

CHOOSE THE BEST ANSWER FROM THE SUGGESTED OPTIONS AND BLACKEN THE LETTER OF YOUR CHOICE ON THE SEPARATE ANSWER SHEET PROVIDED.

Time allowed 2hrs

- 1. Based on the five steps listed below, choose the alternative that shows the correct sequence of their application in actual research in biology
- 1) Performing an experiment
- 2) Conducting preliminary observation about a particular problem in biology
- 3) Statement of biological theory
- 4) Collecting of experimental data
- 5) Hypothesis formulation

A. 1, 2, 3, 4, 5 B. 5, 4, 3, 2, 1 C. 2, 5, 1, 4, 3 D. 2,5,1,3,4

- 2. From which of the following do scientists usually formulate a hypothesis
 - A. Experiment B. Theory C. Prediction D. observation
- 3. In an experiment designed to test the effect of different concentrations of a fertilizer on the growth rate of a plant, which one of the following is the dependent variable
 - A. the growth rate of the plant
 - B. concentrations of the fertilizers applied
 - C. plants assigned to the control group
 - D. plants assigned to the experimental group
- 4. Suppose 25% of the molecules of an enzyme are inhibited by a non competitive inhibitor, which one of the following would happen if the amount of the substrate is increased by 50%?
 - A. The rate of the reaction would remain unchanged
 - B. More enzyme molecules would get inhibited
 - C. The rate of the reaction would decrease by 50%
 - D. The reaction rate would double

- 5. What are the environmental advantages of using enzymes in industry?
 - A. it makes high production possible with less input of heat.
 - B. it makes high production possible with high input of heat
 - C. it makes high production possible with emission of more CO_2 .
 - D. it helps high production with supply of more heat and emission of more CO₂ product
- 6. Where does the Calvin cycle take place?
 - A. stroma of the chloroplast C. thylakoid membrane
 - B. chlorophyll molecule D. outer membrane of the chloroplast
- 7. Which of the following is an example of biotechnology?
 - A. Genetic engineering to produce insulin for diabetes treatment.
 - B. The study of ancient fossils to understand extinct species.
 - C. Exploration of outer space using telescopes and satellites.
 - D. Manufacturing of automobiles using advanced robotics.
- 8. What is the primary goal of conservation of natural resources?
 - A. To exploit resources for immediate economic gains.
 - B. To preserve natural resources for future generations.
 - C. To eliminate the use of natural resources entirely.
 - D. To maximize the extraction of natural resources for industrial development.
- 9. Which of the following is an example of non-renewable natural resources?
 - A. Solar energy. B. Wind energy C. Fossil fuels D. Timber
- 10. Which of the following factors can contribute to food **insecurity**?

A. Climate change and extreme weather events.

B. High agricultural productivity and technology advancements.

C. Increased access to nutritious foods in local communities.

- D. Stable political and economic condition
- 11. Which of the following is an example of a biopesticide?
 - A. Synthetic pyrethroids for mosquito control.
 - B. Chlorinated hydrocarbons for termite control.
 - C. Bacillus thuringiensis (Bt) for caterpillar control.
 - D. Organophosphates for weed control.

- 12. What is the importance of gene therapy in the field of medicine?
 - A. It provides a potential cure for previously untreatable genetic diseases.
 - B. It improves the effectiveness of traditional drug therapies.
 - C. It eliminates the need for surgical interventions.
 - D. It enhances the body's natural immune response to diseases.
- 13. Among the following human diseases, identify the one that is transmitted through a vector?
 - A. Leprosy B. Mump C. Gonorrhea D. Trypanosomiasis
- 14. What is the criterion in the modern classification of enzymes?
 - A. The type of reaction the enzyme catalyzes.
 - B. The place of their synthesis.
 - C. The type of the product the enzyme yields.
 - D. The type of substrate that the enzyme acts on.
- 15. If an enzyme depends on a cofactor for its activity, then the enzyme becomes active and functional when it is found in the form of
 - A. Apoenzyme B. Coenzyme C. Holoenzyme D. Cofactor
- 16. How do enzymes accelerate biochemical reactions?
 - A. By increasing the amount of activation energy of the reaction.
 - B. Being specific to various substrates.
 - C. By reducing the amount of activation energy of the reaction.
 - D. Since they are proteinase molecules
- 17. Suppose three potato cylinders are kept for some time in 80%, 15% and 10% sucrose solutions respectively, and the fourth cylinder is kept in distilled water, which of the cylinders will more flaccid?
 - A. The cylinder in 10% solution C. The cylinder in 80% solution
 - B. The cylinder in 15% solution D. The cylinder in distilled water
- 18. Which of the following cell types can be reaching in lysosomes?
 - A. Nerve cell B. Muscle cell C. Phagocytic cells D. Red blood cells

- 19. What happens when red blood cells are kept in a hypertonic solution?
 - A. The same net gain and loss of water
 - B. More water goes out of the cell than getting in
 - C. More water gets into the cell than leaving it
 - D. The cells prevent water from getting in or leaving out
- 20. Which of the following is an important function of the Golgi apparatus?
 - A. Protein synthesis
 - B. Removing of debris from the cell
 - C. Packaging of protein for export out of the cell
 - D. Storage of waste materials not needed by the cell

21. Which of the following stages of aerobic respiration does not takes place in the mitochondria

A. Link reaction B. Glycolysis C. Krebs cycle D. Electron transport chain

Question number 22 is to be answer based on the following information of report writing format.

1. Title	5. Procedure
2. Results	6. Hypothesis
3. Evaluation	7. Acknowledgments
4. Conclusion	8. Prediction

22. Based on the report writing format listed above, choose alternative that shows the **correct** sequence in reporting the results of research in scientific journals?

A. 1, 5, 3, 6, 8, 7, 2, 4	C. 7, 3, 4, 2, 5, 8, 6, 1
B. 7, 8, 6, 3, 5, 4, 1, 2	D. 1, 6, 8, 5, 2, 4, 3,7

- 23. The petiole of a leaf is:
 - A. The outer protective covering of the leaf
 - B. The part of the leaf that attaches it to the stem
 - C. The tip of the leaf
 - D. The central vein of the leaf.
- 24. Which of the following is the function of bacterial endospore?
 - A. Reproduction B. Survival C. Storage D. Protein synthesis

25. What organisms are capable of photosynthesis?				
A. Plants only				
B. Plants and algae only				
C. Plants and some bacteria only				
D. Plants, algae and some bacteria				
26. Which of the following is an example of a C4 plant?				
A. Cactus B. Maize C. Rice D. Wheat				
27. G3P (glycer aldehyde 3 phosphate) is used by plants for all of the following EXEPT the				
formation of				
A. fatty acid B. oxygen C. sucrose D. starch				
28. Which leaf tissue layer is responsible for the majority of photosynthesis in plants?				
A. Palisade mesophyll B. Sponge mesophyll C. Guard cell D. Epidermis				
29. At which stage of aerobic respiration most ATP is generated?				
A. Krebs cycle B. Glycolysis C. Electron transport chain D. link reaction				
30. How many molecules of glycerol and fatty acids are needed respectively to form 200				
molecules of triglyceride.				
A. 200 and 400 B. 200 and 600 C. 100 and 200 D. 400 and 600				
31. Which chemical element is the most abundant in living cells?				
A. Carbon, Hydrogen, Oxygen, Nitrogen				
B. Oxygen, Nitrogen, Phosphorous, Sulphur				
C. Nitrogen, Hydrogen, Phosphorous, Calcium				
D. Hydrogen, Nitrogen, Phosphorous, Sulphur				
32. The presence of cholesterol in the cell membrane contributes to:				
A. Increased fluidity of the membrane				
B. Decreased fluidity of the membrane				
C. Enhanced transport of large molecules				
D. Formation of lipid rafts				

- 33. The cell membrane plays a crucial role in maintaining:
 - A. Intracellular pH balance
 - B. Genetic material replication
 - C. Protein synthesis
 - D. Mitochondrial function
- 34. Which model is widely accepted and supported by scientific evidence as the current understanding of the cell membrane structure?
 - A. Davson-Danielli model
 - B. Fluid mosaic model
 - C. Lipid bilayer model
 - D. Protein monolayer model
- 35. How can the community contribute to HIV control efforts?
 - A. Promoting HIV awareness and education.
 - B. Encouraging regular HIV testing.
 - C. Supporting access to healthcare and treatment.
 - D. All of the above.
- 36. What is the reason that Louis Pasteur used a swan necked flask instead of straight necked one in his experiment designed to disprove the theory of spontaneous generation?
 - A. to allow free passage of air to the broth inside the flask
 - B. to prevent the escape of any microorganisms from the flask
 - C. to keep the broth in the flask hot to kill microorganisms
 - D. to trap particles from the air that might enter the flask before reaching the broth
- 37. In which of the following are all the tools mainly used in the laboratory rather than in field situation?
 - A. Data logger, flow meter, theodolite, GPS receivers
 - B. Flow meters, centrifuges, theodolites, microscopes
 - C. Centrifuges, plant presses, flow meters, microscopes
 - D. Centrifuges, petri dishes, electron microscope, measuring cylinders
- 38. The biological instrument used to culture bacteria in the laboratory is
 - A. test tube B. petri dish C. beaker D. microscope

39.	39. Which of the following is inorganic compound?					
	A. Deoxyribose	B. Calcium ca	arbonate	C. ATP	D. Glycine	
40.	Which of the following	ng properties of wa	ter make	s sweat an effe	ective body cooler?	
	A. Its high specific heat			C. Its high surface tensions		
B. Its low density when frozen D. It			D. Its high hea	t of vaporization		
41.	Why photosynthesis	is impossible at a de	epth of 2	000m? becaus	e	
A.	. It is too cold C. it is too hot					
В.	only blue light penetr	rates this far		D. no light per	netrates this far	
42.	In which one of their	r structural parts de	o differe	nt molecules o	of amino acids differ from o	one
	another?					
A.	In their amino group		C. In	their R group		
	B. In their alpha – car	rbon group	D	. In their carbo	oxyl group	
43.	If one mixes a samp	le of a fruit juice a	and some	e drops of Ber	nedict's solution and obtain	s a
	brick-red precipitate up on warming the mixture, what does the juice contain?					
A.	starch B.	reducing sugar		C. sucrose	D. protein	
44.	How many water mo	lecules are released	when 4	00 glucoses in	a condensation reaction for	ms
	starch?					
A.	100 B	. 600	C. 399		D. 397	
45.	Which of the following	ng polysaccharides	is stored	in the liver an	d muscles of animals?	
A.	Starch B.	Glycogen	C. Cell	ulose	D. Chitin	
46.	Which of the following	ng is NOT a functio	on of trig	lycerides in the	e body?	
A.	energy storage B. t	hermal insulation	C. enzy	me production	D. buoyancy	
47.	Which one of the foll	lowing is true?				
	A. Cellular respiratio	on occurs in mitoch	ondria a	nd in chloropla	asts.	
	B. Photosynthesis occurs in chloroplasts and cellular respiration occurs in mitochondria.					
	C. Photosynthesis oc	ccurs in mitochondr	ria and ir	chloroplasts.		
	D. Photosynthesis oc	ccurs in mitochondr	ria and co	ellular respirati	ion occurs in chloroplasts.	
48.	Which of the followi	ng processes of pho	otosynth	esis does not r	require the presence of light	t to
	take place?					
	A. Photolysis of wate	er		C. Reduction of	of NADP	
	B. ATP formation			D. Carbon fixa	ation	
	D. AIT IOIIIIatioli				ation	

- 49. Which of the following is false about non cyclic photo phosphorylation
- A. It requires photolysis of water C. It generates ATP
- B. It produces NADPH D. PSI (chlorophyll) is the final electron acceptor
- 50. The reaction that occurs in the bundle sheath cell of C₄ plants from the following is
- A. Calvin cycle C. carbon fixation
- B. Conversion of PEP to oxaloacetate D. conversion of oxaloacetate to malate
- 51. Icosahedral symmetry of viruses is known for their:
 - A. Helical capsids
 - B. Complex replication mechanisms
 - C. Spherical shape with 20 triangular faces and 12 vertices
 - D. Ability to infect only bacteria
- 52. When glucose is used to make ATP all of the carbons in glucose are converted to CO₂. Which metabolic pathway produces most of this CO₂?
 - A. Electron transport chain B. Krebs cycle C. Glycolysis D. Link reaction
- 53. What will happen to the rate of enzyme catalyzed reaction, if the substrate concentration increases without altering enzyme concentration?
 - A. increase initially and become constant
 - B. increase quickly all the time
 - C. decrease quickly all the time
 - D. increase initially and become zero finally
- 54. Which of the following statements best describes genetic engineering?
 - A. The study of genetic inheritance patterns in human populations.
 - B. The manipulation of an organism's genetic material to introduce desirable traits.
 - C. The analysis of genetic variation within a species.
 - D. The study of DNA replication and protein synthesis.
- 55. How can biotechnology contribute to securing the food supply of society?
 - A. By eliminating the need for agricultural practices.
 - B. By reducing the global population to match the available food resources.
 - C. By enhancing crop productivity and improving resistance to pests and diseases.
 - D. By promoting traditional farming methods over modern techniques.

56. Which of the following is an example of a traditional use of biotechnology?

- A. Developing genetically modified organisms (GMOs).
- B. Using fermentation to produce bread and alcoholic beverages.
- C. Engineering plants for herbicide resistance.
- D. Modifying the genetic material of organisms using modern laboratory techniques.

57. Which microorganism plays a key role in the fermentation process of tella, tej, wine and beer production?

- A. Lactic acid bacteria C. Saccharomyces
- B. Acetic acid bacteria D. Penicillium mold

58. What is bioremediation?

A. The process of using chemical compounds to clean up pollutants.

B. The application of microorganisms to degrade or remove pollutants from the environment.

C. The process of using physical barriers to isolate contaminated areas.

D. The extraction of pollutants from the environment using specialized machinery.

59. What is the primary mode of transmission for respiratory infections caused by microorganisms?

- A. Direct contact with contaminated surfaces.
- B. Ingestion of contaminated food and water.
- C. Inhalation of respiratory droplets from infected individuals.
- D. Transmission through insect vectors.

60. Which of the following statements is true regarding fungi?

A. Fungi are photosynthetic organisms.

- B. Fungi are multicellular and have true roots, stems, and leaves.
- C. Fungi reproduce through spores.
- D. Fungi are not chemoheterotrophic
- 61. Which of the following diseases is not caused by protozoan parasite?

A. Malaria B. Measles C. Leishmaniasis D. Toxoplasmosis.

- 62. Which of the following is a characteristic feature of protozoa?
 - A. Multicellularity
 - B. Presence of a Cell wall
 - C. Presence of chloroplasts for photosynthesis in all protozoa.
 - D. Presence of a nucleus.
- 63. Which of the following viruses is primarily transmitted through animal bites?
 - A. Rabies virus C. Human papilloma virus
 - B. Mump virus D. Hepatitis C virus
- 64. Among the following one is not the correct idea of Robert Koch postulate.
 - A. The microorganisms must always be present when the disease is present
 - B. The microorganism can be isolated from an infected individual & then grow in culture.
 - C. Introducing such cultured microorganisms in to a healthy host should results in disease developing.
 - D. It is not possible to re-isolate the microorganism to obtain a pure culture.

Question number 65-67 is to be answer based on the following diagram



- 65. What organelle is illustrated above?
 - A. mitochondrion C. Golgi apparatus
 - B. Chloroplast D. Endoplasmic reticulum
- 66. What is the term for the structure labeled "a"?

A.	Thylakoid	B. stroma	C. matrix	D. crista
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67. Which statement is NOT true of the set of reactions labeled "d"?

- A. They are referred to as the Calvin Cycle.
- B. Carbon dioxide is "fixed" during the process.
- C. Most carbon is converted into RuBP.
- D. The process takes place in the grana
- 68. An enzyme that hydrolyses protein will not act up on starch. This fact indicates that enzymes are
 - A. catalytic B. synthetic C. hydrolytic D. specific
- 69. Which factor has a more negative effect on the functions of enzymes than the others?
 - A. Neutral PH. C. Optimal amount of salt concentration.
 - B. Very high temperature. D. optimal amount of substrate concentration
- 70. When an enzyme is denatured by heat or extreme pH, which one of the following does it lose?
 - A. The peptide bonds. C. Secondary structure
 - B. Primary structure. D. Tertiary structure
- 71. If the ratio of competitive inhibitor molecules to substrate molecules is 2:8, the enzyme controlling the reaction will be:
- A .10% activated B. 20% activated C. 80% activated D. two- eight inhibited72. Which of the following mechanisms do cells use to regulate enzyme catalyzed reaction in metabolic pathways?
 - A. Enzyme denaturation C. Irreversible inhibition
 - B. End product inhibition D. Competitive inhibition
- 73. Among the following scientists who contributed to the cell theory, identify the one who stated that a cell can arise only from another cell like it'.
 - A. Robert Hooke C. Matthias Schleiden
 - B. Theodor Schwann D. Rudolf Virchow
- 74. Which of the following is true about prokaryotic and eukaryotic cells?
 - A. Both prokaryotes and eukaryotes have membrane bonded nucleus.
 - B. Eukaryotes have linear DNA, but prokaryotes have a continuous loop DNA
 - C. Prokaryotes have mitochondria, but eukaryotes have no mitochondria
 - D. prokaryotic cells are larger and contain more organelles than eukaryotes.

75.	75. Of the following four cells whose surface area to volume ratio is given, which cell can more				
	efficiently transport its needs of materials across the cell surface?				
	A. 24:8 ratio	B. 54:27 ratio	C. 96:64	ratio D.	150:125 ratio
76.	Why are cells the	nat secrete hormone	es and enzyme	es rich in roug	h endoplasmic reticulum?
	Because they pro	duce more			
	A. Proteins	B. ATP	C. Carboh	ydrates	D. Lipids
77.	Which of the foll	owing is not found	in the energy c	urrency of the c	cell (ATP)?
	A. Nitrogenous b	ase B. Hexose	sugar C. Ph	osphate D.	Pentose sugar
78.	Which of the foll	owing is an exampl	e of a beneficia	al application of	f microorganisms?
	A. Infectious dise	eases	C.	Food spoilage	
	B. Antibiotic pro	duction	D.	Air pollution	
79.	How are vector-b	orne diseases prima	rily transmitte	d to humans?	
	A. Through conta	aminated water			
	B. Through direc	t contact with an inf	fected person		
	C. Through the re	espiratory system			
	D. Through the b	ite of an infected ar	thropod		
80.	Which molecule	is the final electron	acceptor in the	electron transp	oort chain?
	A. Oxygen.	B. Carbon dioxide	e. C.	NADH.	D. FADH2.
81.	Which of the foll	owing is a prokaryo	otic microorgan	ism?	
	A. Trichomonads	B. Protozo	oan C.	Slime mold	D. Cyanobacteria
82.	Which of the foll	owing terms refers	to a prokaryoti	c cell that is cor	nma shaped?
	A. Sarcina	B. Bacilli	C. Cocci	D.	Vibrio
83.	83. Compared with Gram – positive bacteria, Gram – negative bacteria				
	A. are less resist	ant to antibiotics			
	B. have no outer	membrane			
	C. lose the cryst	al violet stain in Gra	am's method of	staining	
	D. have thicker peptidoglycan layer in their cell wall				
84.	84. Among the following infectious human diseases, identify the one that is not caused by				
	bacteria				
	A. Pertussis	B. Typhoid fever	C.	Syphilis	D. Aspergillosis

- 85. All of the following are characteristic of virus except
 - A. Viruses have an inner core of nucleic acid
 - B. viruses do not have a cellular organization
 - C. Viruses are affected by antibacterial antibiotics
 - D. viruses are obligate intercellular parasite
- 86. Given these characteristics of a transport process
- 1. Moves with the concentration gradient
- 2. Does not require energy
- 3. Requires carrier molecules. The transport process involved is _____
 - A. facilitated diffusion C. phagocytosis
 - B. active transport D. pinocytosis
- 87. What is the primary function of the Calvin cycle?
 - A. use ATP to release carbon dioxide
 - B. use NADPH to release carbon dioxide
 - C. split water and release oxygen
 - D. synthesize simple sugars from carbon dioxide
- 88. How is photosynthesis similar in C4 and CAM plants?
 - A. Both types of plants make sugar without the Calvin cycle.
 - B. In both cases, thylakoids are not involved in photosynthesis
 - C. Both types of plants make most of their sugar in the dark.
 - D. In both cases, PEP carboxylase is used to fix carbon initially.
- 89. Which of the following is a key difference between DNA and RNA?
 - A. DNA contains deoxy ribose sugar, while RNA contains ribose sugar
 - B. DNA is single stranded, while RNA is double stranded
 - C. DNA contains uracil in as one of its bases, while RNA contains thymine
 - D. DNA is found in the nucleus, while RNA is found in the cytoplasm
- 90. End-product inhibition or negative feedback control of a metabolic pathway occurs when:
 - A. The last product of the pathway inhibits the enzyme controlling the first reaction.
 - B. The last product of the pathway inhibits the enzyme controlling the last reaction.
 - C. The first product of the pathway inhibits the enzyme controlling the last reaction.
 - D. The last product of the pathway inhibits the enzyme controlling the second reaction.

91. Given these characteristics of a transport process into a cell

1. ATP is required

2. Does not exhibit saturation

- 3. Solid particles are transported. The transport process involved is
- A. Active transport B. facilitated diffusion C. phagocytosis D. pinocytosis
- 92. What is the role of microorganisms in sewage treatment plants?
 - A. To produce ethanol C. To break down organic matter
 - B. To filter out heavy metals D. To produce antibiotics

93. What is the primary role of vaccines in disease prevention?

- A. Treating symptoms of the disease C. Destroying bacteria and viruses
- B. Boosting the immune system D. Stimulating allergic reactions
- 94. What is the primary purpose of fermentation?
 - A. To generate ATP. C. To produce oxygen.
 - B. To regenerate NAD+. D. To convert pyruvate to acetyl-CoA.

95. In the cell membrane, phospholipids are arranged in a bilayer with their _____ heads facing the external and internal environments and their _____ tails facing each other.

- A. Hydrophilic; hydrophobic
- B. Charged; uncharged
- C. Hydrophobic; hydrophilic
- D. Uncharged; charged

96. Suppose you labeled two permeable membranes to water as A and B and you add hypertonic solution in A and hypotonic solution in B. What will be the expected result?

- A. no change in both membranes
- B. rise of the water level in B
- C. rise of the water level in A
- D. rise of the water level in both membranes
- 97. Which biomolecule is the primary source of energy for living organisms?

A. lipids B. proteins C. nucleic acids D. carbohydrates

- 98. Which level of protein structure refers to the linear sequence of amino acids?
 - A. secondary structure
 - B. primary structure
 - C. quaternary structure
 - D. tertiary structure
- 99. Which mode of nutrition describes bacteria that obtain energy from sunlight and carbon from inorganic source?
 - A. photoautotroph
 - B. photoheterotroph
 - C. chemoautotroph
 - D. chemoheterotroph
- 100. Which cycle is associated with the formation of viral particles called prophage?
 - A. lytic cycle
 - B. lysogenic cycle
 - C. replicative cycle
 - D. retroviral cycle