

KATHMANDU UNIVERSITY  
End Semester Examination  
August/September, 2017

Mark Scored:

Level : B. E.

Year : II

Exam Roll No. :

Time: 30 min

Course : CHEG 213

Semester : II

F. M. : 10

Registration No.:

Date

SEP 04 2017

SECTION "A"

[20 Q × 0.5 = 10 marks]

Choose the most appropriate answer from the given choices.

1. The main difference between prokaryotes and eukaryotes is  
 prokaryotes cannot undergo cell division     prokaryotes have no internal membranes  
 prokaryotes have no DNA     prokaryotes have no cytosol
2. Lipids are considered as a good energy storage molecules because  
 they can absorb a large amount of energy while maintaining a constant temperature  
 they have many carbon-hydrogen bonds  
 they are composed of many simple sugars  
 they cannot be broken down by enzymes
3. In lactose, the linkage is  
 beta 1-4 linkage     beta 1-2 linkage  
 alpha 1-4 linkage     alpha 1-2 linkage
4. Competitive inhibitor of an enzyme is usually  
 a highly reactive compound     a metal ion such as  $Hg^{2+}$  or  $Pb^{2+}$   
 structurally similar to the substrate     water insoluble
5. The relationship between  $K_{eq}$ ,  $K_m$  and  $V_{max}$  is best described by  
 Haldane equation     Michaelis Menten equation  
 numerical solution approach     Gibbs-Helmholtz equation
6. The most common secondary structure is  
 alpha - helix     beta - pleated sheet  
 beta - pleated sheet parallel     beta - pleated sheet non parallel
7. The immobilization technique involving physical method is  
 covalent bond formation dependent  
 non-covalent bond formation dependent  
 both covalent and non-covalent bond dependent  
 ionic bond formation dependent
8. During cellular respiration, most of the ATP made, is generated by  
 oxidative phosphorylation     photophosphorylation  
 glycolysis     substrate-level phosphorylation
9. In oxygenic photosynthesis, which photosystem absorbs the longest wavelength of light?  
 photosystem I     photosystem II  
 photosystem III     photosystem II and III

10. Lag phase is also known as  
[ ] period of initial adjustment [ ] transitional period  
[ ] generation time [ ] cell death period

Fill in the blanks by most appropriate VALUE or WORD.

11. The organism which grows best above 45°C are called \_\_\_\_\_  
\_\_\_\_\_
12. Transferase belongs to \_\_\_\_\_ in international classification of enzymes.
13. A major function of pentose phosphate pathway is supplying the cell with \_\_\_\_\_ which in turn carries electrons to biosynthetic reactions.
14. EC numbers consist of four digits, for example a. b. c. d, where "a" \_\_\_\_\_, "b" \_\_\_\_\_, "c" \_\_\_\_\_, and "d" is \_\_\_\_\_.
15. The first phase of the Entner-Doudoroff Pathway yields \_\_\_\_\_ and \_\_\_\_\_.
16. The final product of the Embden-Meyerhoff Pathway is \_\_\_\_\_.
17. The enzyme required for transcription is \_\_\_\_\_.
18. The genetic code AUG codes for \_\_\_\_\_.
19. The process of binding of primer to the denatured strand of DNA is called \_\_\_\_\_.
20. Any DNA molecule that has the ability to replicate in an appropriate host cell, to which the desired gene are integrated for cloning, is called \_\_\_\_\_.