

**DEPARTMENT OF BIOTECHNOLOGY**  
**UNIVERSITY OF KARACHI**  
**SAMPLE TEST PAPER**

**NOTE:** EACH QUESTION IS FOLLOWED BY FOUR CHOICES. CHOOSE THE BEST OPTION.

1. Doctoral students who are preparing to take their qualifying examination have been studying in the library every night \_\_\_\_\_ the last three months.
  - A. since
  - B. until
  - C. before
  - D. for
  
2. \_\_\_\_\_ of the play, 'Mourning Becomes Electra', introduces the cast of characters and hints at the plot.
  - A. The act first
  - B. Act one
  - C. Act first
  - D. First act
  
3. As soon as \_\_\_\_\_ with an acid, salt is formed.
  - A. a base will react
  - B. a base reacts
  - C. a base is reacting
  - D. the reaction of a base
  
4. To answer accurately is more important than \_\_\_\_\_.
  - A. a quick finish
  - B. to finish quickly
  - C. finishing quickly
  - D. you finish quickly
  
5. It takes 30 days to fill a laboratory dish with bacteria. If the number of bacteria double each day, how long will it take for the bacteria to fill one-half of the dish?
  - A. 10 days
  - B. 29.5 days
  - C. 29 days
  - D. 15 days
  
6. Which of the following integers has the most divisors?
  - A. 88
  - B. 91
  - C. 95
  - D. 101

7. The cost of two flasks and a beaker totals Rs. 175. If the beaker costs Rs. 25 more than the flasks, what is the cost of a pair of flasks.
- A. Rs. 100
  - B. Rs. 75
  - C. Rs. 125
  - D. Rs. 115
8. Successive discounts of 20% and 15% are equal to a single discount of
- A. 30%
  - B. 32%
  - C. 34%
  - D. 35%
9. Eighty (80) is equal to
- A.  $16\sqrt{2}$
  - B.  $8\sqrt{2}$
  - C.  $4\sqrt{5}$
  - D. None of the above
10. The ability of the lens to distinguish two closely lying objects is
- A. Resolution
  - B. Optical Density
  - C. Transmittance
  - D. All of them
11. Which of the following processes does not involve carrier mediated transport?
- A. Active transport
  - B. Facilitated diffusion
  - C. Simple diffusion
  - D. Transport that involves adding a  $\text{PO}_4$  group to a nutrient.
12. The characteristic feature of the Gram negative bacteria is the presence of:
- A. Lipoprotein envelop
  - B. Peptidoglycan
  - C. Starch
  - D. Glycogen
13. Kb is an abbreviation for \_\_\_\_\_ base-pairs of DNA or RNA.
- A. 10
  - B. 100
  - C. 1000
  - D. 10000

14. The site of protein synthesis is / are:  
A. Mitochondria  
B. Nucleus  
C. Ribosomes  
D. Golgi apparatus
15. Enzymes produced continuously throughout the life cycle of the cells are \_\_\_\_\_ enzymes.  
A. Substitutive  
B. Constitutive  
C. Inducible  
D. None of them
16. The Sequence of amino acids residues in a peptide chain is:  
A. Secondary structure  
B. Primary structure  
C. Quaternary structure  
D. Tertiary structure
17. What is the net production of ATP in anaerobic glycolysis?  
A. 2 moles  
B. 4 moles  
C. 6 moles  
D. 8 moles
18. Ordinary hydrogen molecule is a mixture of two forms of hydrogen. These are called:  
A. Ortho and para hydrogen  
B. Ortho and meta hydrogen  
C. Meta and para hydrogen  
D. None of them
19. VII-A group is termed as Halogens because they are:  
A. Gum producers  
B. Salt producers  
C. Acid producers  
D. Base producers
20. Transition elements form:  
A. Anions  
B. Cations  
C. Complex ions  
D. Simple ions