



**Capital University of Science and Technology
Islamabad**

Sample Admission Test for BS-Bioinformatics Degree Program

I-ENGLISH

(40 Questions in 50 Minutes)

READING COMPREHENSION, VOCABULARY

READING COMPREHENSION

This part contains a reading passage followed by questions based on what is stated or implied in the passage. While answering the questions, take cognizance of the facts or implications in the text. You may refer back to the passage while answering. Mark your answers on the answer sheet.

It is said that light is shadow of God. Once Diogenes took a lamp in his hand in day time and looked about in the streets full of people and said, "I am in search of an honest man".

Light spreads education and knowledge. In all developed societies education occupies central place. Today we see tremendous explosion of knowledge all around. Nations with strong educational profiles are leaping forward and making viable economic growth and development. These nations have restored educational system its rightful place. They have enabled their citizens to live cope with and grow towards high change in society. Their educational apparatus has helped usher in a knowledge based society.

They have built their citizenry with a forward looking vision. Education sets to provide valuable policy input to chalk out better future. Education exploits and utilizes innate capacities of people. It develops strategic skills of the people. Indeed, education plays a role of the most powerful catalyst to spur the individuals. And who can deny Socrates saying, "No man is knowingly evil". So, knowledge becomes virtue and knowledge becomes power and power never fails. All education springs from images of future and all education creates the image of future.

Answer the following questions:-

Q-1: What did Diogenes search?

- | | |
|------------------|------------------|
| a. a lamp | c. shadow of God |
| b. an honest man | d. education |

Q-2: What is the place of education in developed societies?

- | | |
|-------------------|------------------|
| a. a bottom place | c. central place |
| b. huge place | d. small place |

PART B VOCABULARY

Each question consists of an incomplete sentence followed by four choices. Find the one choice, which best completes the sentence and mark it on your answer sheet.

1. Michael Faraday made a great discovery _____ that electricity can be made to flow in a coil wire.
 - a. When he found
 - b. To found
 - c. Was found
 - d. He found

2. Solid fuel engines are simpler than liquid fuel engines, _____ have important uses
 - a. Both of them
 - b. So both
 - c. Both however
 - d. But both

PART C Choose and circle the lettered pair that best expresses a relationship like that of the first pair. Remember to express the relationship in a sentence.

1. VERSE : SONG
 - a. play : drama
 - b. rub : carpet
 - c. paper : typewriter
 - d. bicuspid : teeth

2. ACCORD : DISSENSION
 - a. chicanery : guile
 - b. obloquy : reproach
 - c. refinement : denigration
 - d. gentility : coarseness

3. TURNCOAT : VILIFY
 - a. viper : slay
 - b. pickpocket : describe
 - c. author : confound
 - d. adviser : confirm

II-MATHEMATICS

Section A

(30 Questions in 30 Minutes)

For each of the following questions, select the correct answer and mark your choice on the answer sheet.

1. If the average of a and -5 is 10 , then a equals to
 - a. 25
 - b. 15
 - c. 5
 - d. -5

2. If $y = 2$ and $x = 9y + 4$ then what is the value of x
 - a. 2
 - b. 4
 - c. 9
 - d. 22

III-Bioinformatics

(25 Questions in 30 Minutes)

1. Information of all known nucleotide and protein sequences are available on?
 - a. NCBI's Gene Bank EMBL.
 - b. DDBT.
 - c. EMBL.
 - d. All of these.

2. Once the sequences are obtained from your Next Generation Sequencing experiment what is the first thing you should do??
 - a. Perform a bioinformatics analysis of your data.
 - b. Check your data using a different method
 - c. Publish your results.
 - d. Check your data using a different method
 - e. Further investigate the sequences of interest.

3. In the passive diffusion, solute molecules cross the membrane as a result of
 - a. concentration difference
 - b. pressure difference
 - c. ionic difference
 - d. All of these

IV- GENERAL KNOWLEDGE

(25 Questions in 20 Minutes)

There will be general questions in this test. After each question there will be some options, but only one of them will be the correct answer. You will be required to identify the most appropriate answer and mark it on the answer sheet.

1. Which one is an excellent insulator?

- a. Iron
- b. Water
- c. Wood
- d. Gold

2. Astronomy is a science of

- a. Stars and Galaxies
- b. Pop stars and Film stars
- c. Human Behavior
- d. Animal Behavior

3. Where is “Congo”?

- a. In Central Asia
- b. In Africa
- c. In America
- d. In Australia