


Academic year: 2 nd year		Depart.: Zoology
Section: Bio./Chem.		Subject: Genetics and molecular biology
Date: Jan/ 2012		Time allowed: 2 hour
Full Marks: 35		N0. Of Pages: 2

Question 1: For each multiple choice question listed below, read the question and then mark on the correct answer, in the answer sheet. **30 Marks**

<p>1- If cytosine makes up 22% of the nucleotides in a sample of DNA the the Adenine would make up% of nucleotides</p> <p>a) 22%</p> <p>b) 44%</p> <p>c) 28%</p> <p>d) 56%</p> <p>2- For the DNA strand 5'-TACGATCATAT-3' the correct complementary DNA strand is:</p> <p>A.3'-TACGAT CATAT-5'</p> <p>B.3'-ATGCT AGTATA-5'</p> <p>C.3'-AUGC U AGUAUA-5'</p> <p>D.3'-GCATAT ACGCG-5 '</p> <p>E.3'-TAT ACT AGC AT-5'</p> <p>3- Which of the following is an accurate statement concerning the differences between DNA and RNA?</p> <p>A. RNA is usually double-stranded, but DNA is usually single-stranded.</p> <p>B. RNA has the sugar deoxyribose, but DNA has the sugar ribose.</p> <p>C.RNA contains three different nucleotides, but DNA contains four different nucleotides.</p> <p>D. RNA lacks the base thymine (which is found in DNA) and has uracil instead</p> <p>4- When all or a piece of a chromosome becomes attached to another chromosome, the aberration is called</p> <p>A. inversion.</p> <p>B. translocation.</p> <p>C. deletion.</p> <p>D. duplication</p> <p>5-What are restriction enzymes?</p> <p>A. enzymes that are limited (i.e., restricted) in how big they can become</p> <p>B. Vitamins such as vitamin A</p> <p>C. plasmids</p> <p>D. enzymes that cleave through a DNA helix wherever they encounter a specific sequence of nucleotides</p>	<p>6- What is the theoretical progression of nucleic amplification by PCR?</p> <p>a. 1,2,3,4,5,6,.....</p> <p>b. 2,4,6,8,10,.....</p> <p>c. 1,10,10,1000,10000,.....</p> <p>d. 1,2,4,8,16,32,.....</p> <p>7- The endonuclease BamHI was originally isolated from</p> <p>a. <i>Escherichia coli</i></p> <p>b. <i>Bacillus amyloliquefaciens</i></p> <p>c. <i>Bameilluis pombe</i></p> <p>d. <i>enterobacteria phage T4</i></p> <p>8- The cells in your skin have a different shape and different function from the cells in your liver because the two types of cells have different</p> <p>A. DNA</p> <p>B. Proteins</p> <p>C. Lipids</p> <p>D. carbohydrates</p> <p>9- The DNA sequence GCCTAT in one strand has the complementary sequence in the another strand</p> <p>a. GCCTAT</p> <p>b.CGGATA</p> <p>c. CGGAUA</p> <p>d.CGGATC</p> <p>10- Which of the following molecules functions to transfer information from the nucleus to the cytoplasm?</p> <p>A.DNA</p> <p>B.mRNA</p> <p>C.tRNA</p> <p>D.proteins</p> <p>11- unwinds the double helix during replication</p> <p>a) DNA polymerase</p> <p>b) Ligase</p> <p>c) Helicase</p> <p>d) RNA polymerase</p> <p>12- according to the centromere positions, the chromosomes are classified into</p> <p>a) One type</p> <p>b) Two types</p> <p>c) Three types</p> <p>d) Four types</p>
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