



Quaid-i-Azam University

B. Sc Annual Examination

Paper-D Biochemistry-IV

(Objective Model Paper)

Maximum Marks: 40

Time : 3 Hours

Note:- Question No. 1 is compulsory. Additionally attempt any four questions. All questions carry equal marks.

SECTION –A

Q. 1a) Encircle the correct option.

04 Marks

- Thin layer chromatography is
 - partition chromatography
 - electrical mobility of ionic species
 - adsorption chromatography
 - none of the above
- In ion-exchange chromatography
 - proteins are separated on the basis of their net charge
 - proteins are separated on the basis of their size
 - proteins are separated on the basis of their shape
 - either (b) or (c)
- In an SDS-PAGE
 - proteins are denatured by the SDS
 - proteins have the same charge-to-mass ratio
 - smaller proteins migrate more rapidly through the gel
 - all of the above
- Proteins can be visualized directly in gels by
 - staining them with the dye
 - using electron microscope only
 - measuring their molecular weight
 - none of these
- Double stranded DNA denaturation with specified limit of temperature is
 - reversible reaction
 - irreversible reaction
 - either (a) or (b)
 - none of these

6. Northern blotting is
 - A. widely different than southern blotting
 - B. another name for southern blotting
 - C. analogous to southern blotting
 - D. none of the above
7. Southern blotting involves
 - A. electrophoresis of DNA molecules and then blotting the separated DNA bands followed by incubation
 - B. electrophoresis of DNA molecules and then blotting the separated RNA bands followed by incubation
 - C. electrophoresis of DNA molecules followed by incubation
 - D. electrophoresis of RNA molecules and then blotting the separated RNA bands followed by incubation
8. A human cDNA library
 - A. contains DNA for specific human proteins
 - B. contains DNA for virtually all of the human proteins in vectors
 - C. cannot be used to obtain human genes because it would be radioactive
 - D. none of the above

b) Fill in the blanks with appropriate words.

04 Marks

1. The unpaired nucleotides produced by the action of restriction enzymes are referred to as -----.
2. In order to insert a foreign gene into a plasmid, both must be cut by the ----- restriction enzyme.
3. Proteins are stabilized by the addition of NaCl, AMP and -----.
4. -----of copies can be made from a single molecule of DNA in a PCR reaction.
5. ----- enzymes are named after the bacterium from they are derived.
6. -----bacteria are widely used to produce recombinant DNA products such as peptides and proteins.
7. In recombinant technology Hfr stands for-----.
8. By definition a plasmid is a -----.