

# **Virtual University of Pakistan**

## **BIO203**

### **Methods in molecular biology**

**Final Past Papers**

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### **Bio203**

procedure of western blotting ? 6  
limitation of conventional PCR ?3  
definition of linker and adapter?  
alu -PCR?

### **BIO203**

Difference bw linker and adaptor

Difference bwtype !! And type!!s

Mechanism of wga Mechanism of DNA ligase

Limitations of pcr

Western blotting procedure Properties of DNA probe Nomenclature of restrictions enzyme. Also explain mini primer pcr Calculate restriction sites every four, six, eight.

**BIO203-** Methods in Molecular Biology (12-08-2017) Total Q 47 32 Mcqs 3 long Q (5 marks)

1. Mini-primer PCR
2. Calculate restriction enzyme bases of 4, 6 and 8?
3. Defined the properties of probe?

Short Q 12 (2 and 3 marks)

1. Write limitations of PCR?
2. What is difference between adopter and linker?
3. Function of DNA Ligase?
4. Write the first step of RT-PCR?
5. Write the mechanism of WGA?
6. What is the purpose of blank control and negative control in PCR reaction?

7. What is allu-PCR and write its purpose?
8. Write the difference between type II and type IIs in R-M system?
9. Write down nomenclature in joining DNA molecules?
10. What is southern blot and how DNA is cleaved?
11. Mutation identification?
12. Use of asymmetric PCR?

### **Bio 203**

Today paper What is the principle strategy while designing primers for WGA

What is the difference between type II and type IIs restriction enzyme

What is the difference between adaptor and linker

What is the first step of RT-PCR

What is the use of methylation PCR Write a note on mini PCR Why we use Southern blotting technique

**Bio203** Final paper 13/08/2017 5:00 pm Total question 47 32Mcs

1. Multiplex-PCR consists of multiple primer sets within a ----- PCR mixture to produce amplicon of varying sizes that are specific to different DNA sequences.
2. The PCR is preceded by a reaction using reverse transcriptase to convert -----  
-----
3. Real Time PCR is a technique in which ----- bind to specific target regions of amplicons to produce fluorescence during PCR.
4. Allele-specific PCR used for identifying of -----
5. Colony PCR.
6. ----- is a polymerase chain reaction that actually takes place inside the cell on a slide

7. DNA profiling or DNA fingerprinting is a ----- technique used to identify individuals by characteristics of their DNA

8. PCR has also facilitated research in detection of ----- in plants, animals and environment

9. Type----- systems are of little value for gene manipulation

10. A suitable system was proposed by -----

11. Type II endonucleases recognize and cleave DNA within particular sequences of four to eight nucleotides which have a twofold axis of rotational symmetry i.e. referred as -----

12. Six base recognition site occurs every ----- bp

13. ----- is extracted from phage T4 infected E. coli

14. The enzyme responsible for removing phosphate groups from many types of molecules including DNA?????

15. The Southern blot is used to detect the presence of ----- in a sample by a molecular probe

16. Northern blot is used for Study of -----in eukaryotic cells

17. Diseases which are included in prenatal .....

18. RFLP

19. AFLP

20. In Paleontology ----- is studied by PCR.

21. DNA Ligase is extracted from-----

22. Nested PCR primers. 2 marks question :

1. Linker and adaptor difference.

2. Type II and IIs difference.

3. Which enzyme is extracted from bacteriophages.

mcqs mostly definitions of pcr and blotings.

1- differ b/w type II and type IIs

2-differ b/w adapter and linker

3-first step of PCR

4- colony PCR

5- properties of prob in southern blotting

6- nomenclature of restriction enzymes.

7-mini primer PCR . name of its polymerase and length

8- western blotting six steps

9- conventional PCR reagents and their use

### **Bio203**

What is snp...? 2

Different bw type i and type ii enzyme.=2

Procedure of southern blotting

How cleavage occurs=3

Steps of finger printing=5

solution of bases 4,6,8 =5

Western blotting procedure =10