BT207 Question for classes of 31st of January 2023- 2nd February 2023

1. What are the different types of primers?
2. Differentiate between standard primer and degenerate primer.
3. What are CODEHOP primers? Explain.
4. How to identify consensus regions in motif? Explain.
5. Explain PCR amplification of a gene of interest.
6. Explain the principle behind agarose gel electrophoresis.
7. What are primer dimers? When do they occur?
8. During agarose gel run of a PCR product, you observe few bands which are not of your expected size. What are these bands? What does it imply of your amplification?
9. What are the various DNA visualisation stains? Explain.
10. Differentiate between cloning vector and expression vector.
11. What are restriction enzymes? Explain their use in cloning.
12. What is ligation? What is the optimal ligation ratio generally followed in molecular cloning?
13. What are the basic features of a plasmid? Explain.
14. What are selection markers? Give example.
15. What are restriction endonuclease?
16. How to choose a restriction enzyme?
17. what are zero cutters? What are the problems of using a single restriction enzyme to insert a gene of interest?
18. What are the steps in a PCR reaction?
19. How will you carry out PCR reaction even if your PCR machine stops working?
20. What are the general temperature in various steps in a PCR reaction?
21. How to detect your cloned plasmid?
22. How to check the orientation of your inserted gene?
23. What is blue white screening?
24. What is colony PCR?
25. What is insertional inactivation?
26. What is replica Plating technique, what are the uses?
27. Explain positive and negative screening method, give an example of each.
28. What are the information that you can you get by sequencing your plasmid?
29. What are the steps in genetic engineering?
30. What are the enzymes used in genetic engineering?
31. What are the cellular location of various Enzymes used in genetic engineering?