

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY (Answer any TWO)**2 X 20 = 40 Marks**

1. What is protein engineering and site directed mutagenesis? Explain their use in development of therapeutic agent.
2. Explain the following with examples.
a) bioisosteric replacement b) homologation of alkyl chain c) Rigid analogs (8+6+6)
3. Write importance of ACE inhibitor. Explain Chemistry of ACE along with SAR of ACE inhibitors.

SHORT ESSAY (Answer any FIVE)**5 X 10 = 50 Marks**

4. Enlist various micro organisms used as a biocatalyst. Explain use of biocatalyst in preparation of Drugs with suitable examples.
5. Enlist various methods for calculation of partition coefficient. Explain any one.
6. Classify proton pump inhibitors. Write SAR, use and side effects of omeprazole as proton pump inhibitors.
7. What are immunosuppressive agents? Explain their need as a therapeutic agent with suitable examples?
8. How will you develop HIV-tat inhibitor using recombinant DNA techniques? Justify the answer with suitable examples.
9. Explain various therapeutic aspects of microbial transformation.

SHORT NOTES**2 X 5 = 10 Marks**

10. Prodrug design.
11. Free Wilson Analysis.

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