

Instructions:

**All Questions are compulsory
Draw neat and labeled diagram
wherever necessary**

- Q-1 Write the following 14**
- (i) Describe any two tree building methods. 7
- (ii) What is virtual screening? Explain structure-based virtual screening in detail. 7
- OR**
- (i) Write a short note on structure prediction tools and techniques. 7
- (ii) Describe quantitative structure-activity relationship. 7
- Q-2 Write the following 14**
- (i) Explain: Ramachandran plot and its utility. 7
- (ii) Write a short note on ADMET properties. 7
- OR**
- (i) Describe sequence alignment. 7
- (ii) Describe CoMFA and CoMSIA in detail. 7
- Q-3 Write the following 14**
- (i) Define clinical trial. Explain the detailed process before a drug is approved for registration of clinical trial. 7
- (ii) Define drug metabolism and explain its phases briefly. Elaborate on 'Conjugation reactions'. 7
- OR**
- (i) Describe in detail regarding different types of lead compounds for drug discovery process. 7
- (ii) What is drug toxicity? Differentiate between on-target and off-target effects. Explain 'Off-target effect' with examples. 7
- Q-4 Write the following 14**
- (i) Elaborate any two methods used for target identification in drug discovery process. 7

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- 9 In _____ the investigators observe the subjects, measure their outcomes, but do not actively manage the study.
- a Interventional studies b Clinical observational studies
c Placebo trials d Screening trials
- 10 The presence of which gene alteration is tested before prescribing the drug Imatinib?
- a EGFR b BCR-ABL
c BRCA1 d BRAF V600E
- 11 Second-generation H1 receptor antagonist-terfenadine produces _____
- a On-target effect b Idiosyncratic toxicity
c Off-target effect d Harmful immune responses
- 12 Panitumumab belongs to which of the following type of monoclonal antibody?
- a Murine b Chimeric
c Humanized d Human

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