PBN-1603220001030500 Seat No. _____

B. Sc. (Bioinformatics) (Sem. III) (CBCS) Examination

November / December - 2018

BI - 305 : Medicinal Chemistry

(New Course)

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions :

(1) All questions are compulsory.

(2) The right side figure indicates total marks of the question.

1 Attempt the following : **14**

(a) Answer the following short questions : (all compulsory) **4**

(1) Enzyme inhibition is reversible if the drug binds through intermolecular interactions. (True or False) ?

(2) Irreversible inhibition results if the drug reacts with the enzyme and forms a _____ bond.

(3) Competitive inhibitors bind to the active site and compete with either the _____ or the _____.

(4) Drugs used for HIV_____.

(b) Answer any one of the following questions. **2**

(1) ADMET

(2) Lipinski's rule of five.

(c) Answer any one of the following questions. **3**

(1) Structure based drug discovery.

(2) Antisense therapy.

(d) Answer any one of the following questions. **5**

(1) List out the types of drug targets.

(2) Enzyme as drug targets.

2 Attempt the following : **14**

(a) Answer the following short questions : (all compulsory) **4**

(1) After therapeutic arrea has been identified, the next stage is____.

(2) Pharmacodynamics and pharmacokinetics should have equal priority. (True or False) ?

(3) Name any one pharmaceutical company which is having government collaboration.

(4) There are benefits in designing a single drug that can act selectively at different targets in a controlled manner. Name it.

(b) Answer any one of the following questions. **2**

(1) Explain pharmacokinetics and pharmacodynamics properties.

(2) Explain simplification and rigidification.

(c) Answer any one of the following questions. **3**

(1) Various aims of drug design.

(2) Explain SAR.

(d) Answer any one of the following questions. **5**

(1) Write strategies or approaches of drug optimization. Explain each.

(2) Explain ADMET.

3 Attempt the following : **14**

(a) Answer the following short questions : (all compulsory) **4**

(1) What is drug target ?

(2) What is Pharmacodynamics ?

(3) _____, _____ and _____ are three visual methods of detecting whether ligands bind to macromolecular targets.

(4) Compounds can be tested for their affinity to a macromolecular target by _____.

(b) Answer any one of the following questions. **2**

(1) On what basis are the drugs classified ?

(2) Explain affinity screening.

(c) Answer any one of the following questions. **3**

(1) Explain virtual screening.

(2) What are the advantages of using NMR detection system ?

(d) Answer any one of the following questions. **5**

(1) Write note on neurotransmitters.

(2) Solid phase technique,

4 Attempt the following : **14**

(a) Answer the following short questions : (all compulsory) **4**

(1) What are proto-oncogenes ?

(2) What are the five mechanisms of antibacterial actions ?

(3) Sulphonamides will block the bio-synthesis of what in the bacterial cell ?

(4) The principal of chemotherapy involves the design of chemicals which shows selective toxicity against the bacterial cell rather than a mamalian cell. True or False ?

(b) Answer any one of the following questions. **2**

(1) Telomers.

(2) Hormone-based therapy in cancer treatment.

(c) Answer any one of the following questions. **3**

(1) Explain proto-oncogenes.

(2) Explain interacting genes.

(d) Answer any one of the following questions. **5**

(1) Explain angiogenesis.

(2) Explain protein therapy in cancer.

5 Attempt the following : **14**

(a) Answer the following short questions : (all compulsory) **4**

(1) What is peptic ulcer ?

(2) What is NSAIDS ?

(3) Give example of PPI.

(4) Carbenoxolone is used in _____ therapy.

(b) Answer any one of the following questions. **2**

(1) Synthesis of N-alkylated morphine analogues.

(2) Structure and properties of morphine.

(c) Answer any one of the following questions. **3**

(1) Metabolism of catecholamines.

(2) Drugs tht affect the biosynthesis of adrenergics.

(d) Answer any one of the following questions. **5**

(1) The cholinergic signaling system.

(2) What are anti-ulcer agents ?