



HDS-1603220001030500 Seat No. \_\_\_\_\_

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

November / December – 2017

**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 : **4**  
(All Compulsory)
- (1) What is Pharmacodynamics?
  - (2) The use of transition-state analogues has been particularly effective in the development of \_\_\_\_\_ inhibitors.
  - (3) Irreversible inhibition results if the drug reacts with the enzyme and forms a \_\_\_\_\_ bond.
  - (4) Competitive inhibitors bind to the active site and compete with either the \_\_\_\_\_ or the \_\_\_\_\_.
- (B) Answer Any **One** of the following question : **2**
- (1) Agonist & Antagonist
  - (2) Gene Ontology Consortium.
- (C) Answer Any **One** of the following question : **3**
- (1) Ligand based drug Discovery
  - (2) Cell membrane (Lipid) as drug targets
- (D) Answer Any **One** of the following question : **5**
- (1) Lipinski's rule of five
  - (2) List out the types of drug targets

- 2** Attempt the following : **14**
- (A) Answer the following short questions : **4**  
(All Compulsory)
- (1) Some functional groups can be important to the activity of a lead compound for reasons other than target binding. State other reasons.
  - (2) Pharmacodynamics and pharmacokinetics should have equal priority? (True or False)
  - (3) Drugs which react with a large range of targets are called?
  - (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 JAL following question : **2**
- (1) What are steric shields?
  - (2) Explain simplification and rigidification?
- (C) Answer Any **One** of the following question : **3**
- (1) Binding role of different functional group?
  - (2) Various aims of drug design
- (D) Answer Any **One** of the following question : **5**
- (1) Explain ADMET?
  - (2) Write strategies or approaches of drug optimization. Explain each
- 3** Attempt the following : **14**
- (A) Answer the following short questions : **4**  
(All Compulsory)
- (1) \_\_\_\_\_ define the functional groups or regions of a lead compound which are important to its biological activity.
  - (2) Drugs which are slowly metabolized may linger too long in the body and cause side effects. True or False.

- (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 question : 2
- (1) On what basis are the drugs classified?
- (2) List out rules for fragment-based drug discovery.
- (C) Answer Any **One** of the following question : 3
- (1) What is Target specificity and selectivity in the body?
- (2) Which are the trials involved in clinical trials?
- (D) Answer Any **One** of the following question : 5
- (1) Designing drug-like molecule.
- (2) What are the advantages of using NMR detection system?
- 4 Attempt the following : 14
- (A) Answer the following short questions: 4  
(All Compulsory)
- (1) The principal of chemotherapy involves the design of chemicals which shows selective toxicity against the bacterial cell rather than a mammalian cell. True or false?
- (2) What are the five mechanisms of antibacterial actions?
- (3) Which are the genes which code for the protein when there is a repair needed in DNA?
- (4) Drugs that kill virus also kill bacteria True / False
- (B) Answer a Any **One** of the following question : 2
- (1) Polymyxin B.
- (2) Hormone-based therapy in cancer treatment.

- (C) Answer Any **One** of the following question: **3**
- (1) Inhibitors of cyclin-dependent kinase.
  - (2) Explain proto-oncogenes.
- (D) Answer Any **One** of the following question : **5**
- (1) Explain protein therapy in cancer.
  - (2) Explain photodynamic therapy.
- 5** Attempt the following : **14**
- (A) Answer the following short questions : **4**  
(All Compulsory)
- (1) The somatic motor nerve carry message from the CNS to \_\_\_\_\_.
  - (2) What is Acetylcholine?
  - (3) Carbenoxolone is used in \_\_\_\_\_ therapy.
  - (4) Gastrointestinal tract (GIT) and the urinary tract is controlled by?
- (B) Answer Any **One** of the following question. **2**
- (1) Treatment of peptic ulcer
  - (2) Structure and properties of morphine
- (C) Answer Any **One** of the following question. **3**
- (1) Gastric acid release
  - (2) Drugs that affect the biosynthesis of adrenergics
- (D) Answer Any **One** of the following question : **5**
- (1) What is the opioid analgesics
  - (2) What are anti-ulcer agents?