

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2015

Subject Name: Medicinal Chemistry - I

Subject Code: 5SC03CHC2

Branch: M.Sc. (Chemistry)

Semester: 3

Date: 3/12/2015

Time: 2:30 To 5:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

- Q-1** **Attempt all the Following questions** **(07)**
- a. Define alkaloid. **(1)**
 - b. Define drug. **(1)**
 - c. Define medicinal chemistry. **(1)**
 - d. What are different routes of drug administration? **(1)**
 - e. Define nanomedicine. **(1)**
 - f. What is pinocytosis? **(1)**
 - g. Give one example of typical alkaloid and protoalkaloid. **(1)**
- Q-2** **Answer the following questions** **(14)**
- a. Explain classifications of drugs depending upon their source. **(7)**
 - b. What are the applications of nanomedicine? Explain the application of nanomedicine in visualization. **(7)**

OR

- Q-2** **Answer the following questions** **(14)**
- a. Explain the applications of nanotechnology-based drugs which are commercially available or in human clinical trials. **(7)**
 - b. Explain nanorobotics and nanonephrology. **(7)**
- Q-3** **Answer the following questions** **(14)**
- a. What is volume of distribution? Explain different factors affecting drug distribution. **(7)**
 - b. What is the impact of protein binding? Explain the factors affecting protein binding and tissue binding. **(7)**

OR

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- Q-3** **Answer the following questions**
- a. Explain factors affecting drug absorption in detail. (7)
 - b. Discuss the different transport processes in cell in detail. (7)

SECTION – II

- Q-4** **Attempt all the Following questions** (07)
- a. Enlist different steric factors used in QSAR. (1)
 - b. What are the basic principles of drug action? (1)
 - c. Give examples of active ingredients which are isolated from herbs and roots and currently used as traditional medicine. (1)
 - d. What is the effect of homologation in therapeutic index of a drug? (1)
 - e. Define agonist. (1)
 - f. Define antagonist. (1)
 - g. Define lead compounds. (1)
- Q-5** **Answer the following questions** (14)
- a. Write a note on drug receptor interaction and assessment of receptor occupation. (5)
What is law of mass action in drug receptor interaction?
 - b. What is therapeutic window? Explain clinical applications of therapeutic window. (5)
 - c. What are the applications of drug response curve? (4)

OR

- Q-5** **Answer the following questions**
- a. Discuss the detail classification of receptors. (5)
 - b. Write a note on receptor number and drug response. (5)
 - c. Explain differences between potency and efficacy with suitable example. (4)
- Q-6** **Answer the following questions** (14)
- a. What is Hansch equation and free Wilson approach in QSAR? Explain advantages and disadvantages of free Wilson approach. (7)
 - b. What is bioisosterism? Explain different types of bioisosters with suitable example. (7)

OR

- Q-6** **Answer the following questions**
- a. Explain the effect of hydrophobicity in drug activity by mathematical equation and suitable example. (7)
 - b. Discuss the different methods of lead discovery and identification. (7)

