



Name :
Roll No. :
Invigilator's Signature :

CS/B.PHARM(NEW)/SEM-6/PT-610A/2012

2012

**COMPUTER APPLICATION IN PHARMACEUTICAL
TECHNOLOGY & CLINICAL PHARMACY**

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) In a database table *tb_students* three fields are there :
roll_num, name and *age*.

Identify the SQL statement that will fetch the names of
the students having age above 16 years.

- a) SELECT roll_num, name FROM tb_students
- b) SELECT name, age FROM tb_students ORDER BY age
- c) SELECT name FROM tb_students WHERE age > 16
- d) SELECT name FROM tb_students WHERE age > 16 years.

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[Turn over



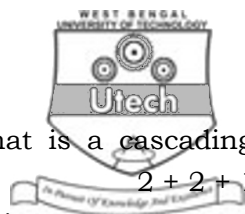
- ii) The descriptor of lipophilicity as designed by Hansch is $\pi = \log \left(\frac{P_x}{P_H} \right)$ where P_H stands for
- partition coefficient of substituted compound
 - partition coefficient of unsubstituted compound
 - partition coefficient of hydrogen
 - partial pressure of substituted compound.
- iii) In QSAR the biological activity of a compound is usually expressed by
- biological activity produced by a certain concentration of the drug
 - potency (expressed by $1/C$) where C is the concentration of the drug required to produce a fixed biological activity
 - $\log P$, where P is the partition coefficient of the drug in octanol/water system
 - none of these.
- iv) In Computer Aided Drug Design 'Ligand-based approach' is employed when
- the structure of the receptor is unknown to the investigator
 - the structure of the receptor is known to the investigator
 - the structure of the drug molecule is unknown
 - the structure of the drug molecule is known.
- v) With a SQL Data Definition Language (DDL) we cannot do by which one of the following tasks ?
- Create table
 - Declare the type of each field
 - Create the integrity constraints
 - Query information from the database.

- <http://www.makaut.com/>

(Short Answer Type Questions)

$$3 \times 5 = 15$$

- $2 + 3$



4. Define and discuss data constraints. What is a cascading update ? What is a SQL view ? 2 + 2 + 1
5. Write about Fujita Ban method in drug design.
6. Write the basic structure of SQL SELECT, INSERT, UPDATE and DELETE query with a common example in each case.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Write a short note on Rational Drug design (RDD). What are descriptors in QSAR ? Discuss how Hansch Analysis is carried out to predict biological action of drugs. $6 + 2 + 7$
8. Discuss general methodology involved in molecular modeling and thus discuss energy minimization. Name two QSAR/docking softwares. Write the advantages and disadvantages of QSAR and combinatorial chemistry in the area of drug discovery. $8 + 2 + 5$
9.
 - a) Compare and contrast 2D and 3D QSAR.
 - b) Write in detail about 3D QSAR study.
 - c) Write a note on solution phase parallel synthesis. $4 + 6 + 5$
10.
 - a) Write in detail about the various descriptors used in 2D QSAR study.
 - b) Write a note on different structure elucidation methods used in solid phase synthesis. $10 + 5$
11.
 - a) Write an account on the pharmacophore mapping in drug designing.
 - b) Write an account on the Virtual screening and database searching in QSAR.
 - c) Write an account on Homology modelling in drug design. $5 + 5 + 5$

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