

**GUJARAT NATIONAL LAW UNIVERSITY  
GANDHINAGAR**

Course: Advanced Sciences  
Semester-III (Batch: 2014-19)

End Semester Examination: Oct-Nov. 2015

Date: 2<sup>nd</sup> November, 2015

Duration: 2 hours

Max. Marks: 40

**Instructions:**

- Read the questions properly and write the answers in the given answer book.
- The respective marks for each question are indicated in-line.
- Do not write any thing on the question paper.
- Indicate correct question numbers in front of the answers.
- No questions or clarifications can be sought during the test period, answer as it is, giving reason, if any.
- **Kindly adhere to the sections while answering.**
- **Draw the diagrams only with pencil.**

	Marks
<b>Part-A</b>	
Q.1 Explain the following terms (a) Partition chromatography. (b) Adsorption chromatography. (c) Reverse phase chromatography. (d) Normal phase chromatography.	(04)
Q.2 Explain any two synthesis techniques for the preparation of nanoparticles.	(03)
Q.3 Explain the principle and working of the following with diagram (a) Gas chromatography. (b) UV-Visible Spectroscopy	(2x5= 10)
<b>Part-B</b>	
Q.4 What is meant by deterrence?	(01)
Q.5 The atomic number of an atom is 53 and mass number is 108. Find the number of nucleons and electrons.	(02)
Q.6 Write any four differences between conventional and nuclear weapon.	(02)
Q.7 Name and explain the components of nuclear weaponisation, development of which consumes the maximum share of the budget allocated for weaponisation.	(03)
<b>Part-C</b>	
Q.8 Write short notes <b>any three</b> of the following. (a) Hydro processing. (b) Catalytic cracking (c) OMIM data base (d) Dot Plot	(3x2= 06)
Q.9 Answer <b>any three</b> of the following questions. (a) What is sequence alignment? Briefly discuss the importance of sequence alignment.	(3x3= 09)

- (b) Describe the tertiary structure of protein.
- (c) What is BLAST? Briefly explain different BLAST programme.
- (d) Write short notes on pretreatment of crude oils.

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