

UG-355

BCHE-21

B.Sc. DEGREE EXAMINATION —
JUNE, 2019.

Second Year

Chemistry

Paper I – GENERAL CHEMISTRY – III

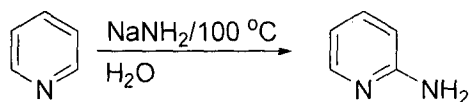
Time : 3 hours

Maximum marks : 75

PART A — (3 × 5 = 15 marks)

Answer any THREE questions.

1. Write a short note on Na^+/K^+ pump in biological system.
2. Write the properties of Boron and their uses.
3. Identify the name of the reaction. Explain the mechanism.



4. Define order and molecularity of the reaction. Write the difference between them.
5. What is isoprene rule? How it's useful for structural prediction?

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

6. Why the properties of lithium is similar with other members of the family? Explain the similarities.
 7. What is borazine? Compare the structure and reactivity of borazine with graphite and benzene.
 8. Why aromatic nucleophilic substitution reaction is difficult than aliphatic nucleophilic substitution. Justify explain the characteristics and mechanism of benzyne intermediate.
 9. Describe the postulates of collision theory and explain the bi-molecular reaction.
 10. Elucidate the structure and synthesis of nicotine.
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BCHE-22

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Second Year

Chemistry

GENERAL CHEMISTRY — IV

Time : 3 hours

Maximum marks : 75

PART A — (3 × 5 = 15 marks)

Answer any THREE questions.

1. Explain the following term with suitable example.
 - (a) Flux
 - (b) Slag.
2. Describe the uses of ultrasound in green synthesis.
3. Account the following.
 - (a) PCl_5 is stable while NCl_5 can not be prepared.
 - (b) Electron affinity of F is smaller than that of Cl.

4. Compare the properties of
- (a) Mn and Cr
 - (b) Mn and Fe.
5. What do you understand by the term vitamin B-complex?

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

6. Write a short note on the following : (5 + 5 + 5)
- (a) Aluminothermic process.
 - (b) Electrolytic refining.
 - (c) Van Arkel de Boer method.
7. (a) What are the twelve principles of green chemistry? (10 + 5)
- (b) Explain : Ionic liquids as green solvents.
8. (a) Draw the structure of PCl_3 , ClF_3 , XeF_4 and XeF_6 . (5 + 5 + 5)
- (b) Discuss the uses of noble gases.
- (c) Discuss the extraction of selenium from anode mud.

9. (a) What do you understand by lanthanide contraction? Discuss its causes and consequences. (10 + 5)
- (b) Make a comparative account of Fe, Co and Ni group.
10. (a) Elucidate the structure of fructose. (10 + 5)
- (b) Write a note on analgesics.
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UG-357

BCHEA-02

**B.Sc. DEGREE EXAMINATION –
JUNE 2019.**

Second Year

Chemistry

ANIMAL DIVERSITY

Time : 3 hours

Maximum marks : 75

SECTION A — (3 × 5 = 15 marks)

Answer any THREE questions.

1. What is animal diversity? Give scientific classification of animals.
2. Describe the morphology of earthworm.
3. Write about star fish indicating its systematic position.
4. Describe the parts of frog digestive system.
5. Explain the structure of Pigeon's brain with neat sketch.

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

6. What are the major invertebrate phyla? Discuss any two with an example.
 7. Explain the ultrastructure of paramecium.
 8. Give a detailed account on cephalic appendages of prawn.
 9. Write detailed notes on circulatory system of calotes.
 10. Elaborate the urinogenetal system of male rabbit.
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