

**VINAYAKA MISSIONS RESEARCH FOUNDATION, SALEM**

(Deemed to be University)

**B.SC(CHEMISTRY) DEGREE EXAMINATION – November 2018****First Semester****DSC – I – GENERAL CHEMISTRY- I**

Time: Three hours

Maximum: 70 marks

**PART – A**

(10 x 2 = 20)

**(Answer ALL Questions)**

1. What are the fundamental particles of matter?
2. Write the Schrodinger's wave equation in one dimension
3. State Charles's law.
4. Define Collision diameter.
5. State Aufbau Principle.
6. What is Electron Affinity?
7. How Nickel will be identified?
8. What are the basic requirements of primary standard solution?
9. Write the canonical structures of CO<sub>2</sub>?
10. Write short note on Baeyer's Strain theory

**PART – B**

(4 x 5 = 20)

**(Answer ALL Questions)**

11. a) Describe the Rutherford's atom model.

**(OR)**

b) Draw the diagram of d – orbital.

12. a) Write any 3 postulates of Kinetic theory of gases

**(OR)**

b) Explain the important feature of molecular distribution curve.

13. a) State and explain Aufbau principle

**(OR)**

b) Discuss about (i) p – block elements (ii) f – block elements

14. a) How cadmium is identified in the presence of copper?

**(OR)**

b) Describe Baker – Nathan effect with suitable example

**PART – C**

(3 x 10 = 30)

**(Answer any THREE Questions)**

16. Describe Sommerfeld's atom model. Give its drawbacks.
17. Discuss the Maxwell's distribution of molecular velocities
18. Discuss about Transition elements and Inner transition elements.
19. Explain the principle, advantages and apparatus used in Semi-micro analysis.
20. Explain Diels – Alder reaction with suitable examples.

























































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**B.SC(CHEMISTRY) DEGREE EXAMINATION – November 2018****Second Semester****DSC II – GENERAL CHEMISTRY - II**

Time: Three hours

Maximum: 70 marks

**PART – A**

(10 x 2 = 20)

**(Answer ALL Questions)**

1. What is Inert pair effect? Give an example
2. Write the difference between S and P orbitals
3. What is the position of Hydrogen in Periodic Table?
4. What are silanes? Give an example.
5. What is electrophile?
6. Define elimination reaction
7. State Markovnikov's rule. Give an example
8. Write the Friedel - Crafts alkylation and acylation reaction
9. Define surface tension
10. Define mole fraction

**PART – B**

(4 x 5 = 20)

**(Answer ALL Questions)**

11. a) Briefly explain the factors affecting polarization effect  
(OR)  
b) Describe valance bond theory with neat diagrams
12. a) Explain the preparation, properties, structure and uses of LiH  
(OR)  
b) Differentiate carbides and hydrides
13. a) Write a detail note on  $S_N^1$  reaction  
(OR)  
b) Explain about Cis – Trans elimination reaction
14. a) Explain Huckel theory of aromaticity with example  
(OR)  
b) Write a note on liquid crystals

**PART – C**

(3 x 10 = 30)

**(Answer any THREE Questions)**

15. Define molecular orbital theory
16. Write the Preparation, properties and technical applications of carbide
17. Explain about  $E_1$  &  $E_2$  mechanism
18. Explain about aromaticity and resonance structure of benzene
19. Write note on a) Refractive index b) Specific refraction c) Molar refraction

**VINAYAKA MISSIONS RESEARCH FOUNDATION, SALEM**

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**B.SC(CHEMISTRY) DEGREE EXAMINATION – November 2018****Second Semester****BIOCHEMISTRY**

Time: Three hours

Maximum: 70 marks

**PART – A**

(10 x 2 = 20)

**(Answer ALL Questions)**

1. Write a note on SI Units.
2. Give the differences between Intermolecular and intramolecular hydrogen bonding
3. What are Disaccharides? Give examples
4. Write the general classification of lipids.
5. What is zwitter ion?
6. Write a note on Denaturation of protein.
7. List the composition of DNA.
8. Write the features of endonucleases.
9. Draw the structure of Niacin and Thiamine.
10. Write the deficiency symptoms of (a) Sodium (b) phosphorous.

**PART – B**

(4 x 5 = 20)

**(Answer ALL Questions)**

11. a) Write a note on (i) Special symbols of SI Units (ii) Prefixes for SI Units

**(OR)**

- b) Write a note on (i) sigma bond (ii) pi-bond

12. a) Explain the straight chain structure of Glucose

**(OR)**

- b) Write down the Biological importance of lipids

13. a) Write the classification Protein in detail?

**(OR)**

- b) Write a note of Denaturation and Renaturation of protein.

14. a) Write a note on (i) Denaturation (ii) Renaturation of nucleic acid

**(OR)**

- b) Explain the nutritional importance of Minerals.

**PART – C**

(3 x 10 = 30)

**(Answer any THREE Questions)**

15. Explain Molecular orbital theory.
16. Write the properties of Monosaccharides
17. Write the structural organization Protein?
18. Write a detail notes on Watson and Crick model of DNA and its properties.
19. Explain in detail about the sources of different minerals.

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**VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM  
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**B.SC (CHEMISTRY) DEGREE EXAMINATION – November 2018**

**Third Semester**

**DSC I - FOOD & NUTRITION**

Time : Three Hours

Maximum: 70 marks

**SECTION - A**

**Answer All questions (10 x 2 = 20)**

- 1 Write short note on Macronutrients.
- 2 Write the different categories of food adulteration.
- 3 What is food contamination?
- 4 What is Gastric lavage?
- 5 List the preparative operations in food industry.
- 6 What is pasteurization?
- 7 Define – Vitamins.
- 8 Write short note on Scurvy.
- 9 What is meant by trace mineral?
- 10 Write the functions of following minerals (a) Calcium (b) Potassium.

**SECTION - B**

**Answer the following**

**(4 X 5 = 20)**

11.a Briefly explain about Micronutrients.

OR

.b Briefly explain about functions of Vitamin E and Vitamin K.

12.a Write shortly about food poisoning and its causes.

OR

.b How will investigate food poisoning cases?

13.a Write short note on contaminants in food material.

OR

.b Write briefly on food preservation.

14.a Write the functions and deficiency symptoms of Vitamin D.

OR

.b Write the functions and deficiency symptoms of Potassium.

**SECTION - C**

III. Answer ANY **THREE** of the following questions:

**(3 x 10 = 30)**

15 Write the functions of different minerals in detail.

- 16 Explain in detail about food poisoning.
- 17 Explain in detail on preparative operations in food industry.
- 18 Write in detail about (i) Vitamin B5 (ii) Vitamin C.
- 19 Explain in detail the sources, functions and deficiency symptoms of Sodium.

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