UG-A-1187 BCHE–21X

U.G. DEGREE EXAMINATION
JULY, 2022.

Chemistry

(From CY – 2020 onwards)

Second Year

GENERAL CHEMISTRY-III

Time : 3 hours Maximum marks : 70

PART A — ($3 \times 3 = 9$ marks)

Answer any THREE questions out five questions in 100 words

All questions carry equal marks

1. What are the uses of Magnesium sulphate?
2. Define Diborane. Write any one preparation of diborane.
3. Explain about Friedel Craft's alkylation reaction?
4. What is Arrhenius Equation?
5. What are Terpenes?

PART B — $(3 \times 7 = 21$ marks)

Answer any THREE questions out of five questions in 200 words.

All questions carry equal marks

6. Describe in detail about the extraction of Be.

7. What are the applications of Boron nitride?

8. Explain the synthetic application of Sulphonation reaction.

9. Explain about Absolute Reaction Rates Theory (ARRT)

10. What is Isoprene rule? Explain it.

PART C — $(4 \times 10 = 40$ marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11. Describe the biological importance of Sodium and Potassium.

12. Discuss in detail about the chemistry of Charcoal and Silicon.

13. Explain about Riemer-Tiemann and Gattermann-Koch reactions.

14. Discuss the derivation of rate constant for Bimolecular reactions.

15. Describe in detail about Alkaloides.

16. Explain about Vilsmeyer-Haack and Chichibabin reactions.

17. Give notes on Glasses and Ceramics.

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U.G. DEGREE EXAMINATION —
JULY 2022.

Chemistry

(From CY 2020 onwards)

Second Year

GENERAL CHEMISTRY – IV

Time : 3 hours Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of five questions in 100 words.

All questions carry equal marks.

1. Define Metallurgy.

2. Why is water claimed as a green solvent? Justify.
   What is atom economy? Given an example.

3. What are pseudohalogens? Explain with examples.

4. Give any four general characteristics of actinoids.

5. What are anaesthetics? Give any two examples.

PART B — $(3 \times 7 = 21$ marks)

Answer any THREE questions out of five questions in 200 words.

All questions carry equal marks.

6. Explain the following processes in the process.

   (a) electrolytic reduction

   (b) magnetic separation.

7. How is a catalyst used to improve the greenness of a reaction? Explain with a few examples.

8. Write the chemical properties and application of the following phosphorous compound.

   (a) PH_3

   (b) PCl_5

   (c) P_2O_5

9. Compare the properties of the following compounds with respect to their electronic configuration.

   (a) titanium,

   (b) vanadium, and

   (c) iron

10. Explain the following with examples.

   (a) Monosaccharides

   (b) Disaccharides

   (c) Polysaccharides

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions out of seven questions in 500 words.

All questions carry equal marks.

11. (a) Explain the zone refining process with an example using the Ellingham diagram. (5)

   (b) Explain the principle of electrolytic refining with an example. (5)

12. Write and explain the twelve principles of green chemistry.

13. (a) Write the classical method of paracetamol synthesis and describe its non-greener context. (5)

(b) Write the Green synthesis of paracetamol and compare it with the classical method. (5)

14. (a) Describe the anomalous behaviour of oxygen as compared with other elements with reference to (5)

(i) Magnetic Properties

(ii) Oxidation state

(iii) Hydrides

(b) Write the physical and chemical properties of nitrogen. (5)

15. Write the uses and applications of transition metals and their alloys.

16. Why vitamins are essential to a human? Discuss the different diseases caused by vitamin deficiency.

17. Write the anyone synthesis of D-Glucose.

UG-A-1189 **BCHEA–02X/ BBOTA–21X**

U.G. DEGREE EXAMINATION – JULY, 2022.

Chemistry / Botany

(From CY – 2020 onwards)

Second Year

ANIMAL DIVERSITY

Time : 3 hours Maximum marks : 70

PART A — (3 × 3 = 9 marks)

Answer any THREE questions out of Five questions in 100 words.

All questions carry equal marks.

Write short notes on:

1. Radiata
2. Medusa
3. Green Glands
4. Lateral line sense organ
5. Diastema

PART B — ($3 \times 7 = 21$ marks)

Answer any THREE questions out of Five questions in 200 words.

All questions carry equal marks

6. What are the general characteristic features of Phylum Arthropoda?

7. What is conjugation? Describe the process of conjugation in Paramecium.

8. Describe the digestive system of Prawn.

9. Write about the pulmonary respiration of frog.

10. Give a brief notes on sir sacs of pigeon.

PART C — ($4 \times 10 = 40$ marks)

Answer any FOUR questions out of Seven questions in 500 words.

All questions carry equal marks.

11. Classify chordate upto classes with suitable examples.

12. Describe the excretory system of earthworm.

13. Explain the water vascular system of sea star.

14. Outline the digestive system of shark.

15. Write about the urinogenital system of Rabbit.

16. Describe the structure of medusa with neat diagram.

17. Describe the structure of calotes brain with a neat diagram.

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