

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2018
(Third Semester)

Branch - MICROBIOLOGY

CHEMISTRY FOR MICROBIOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Why does biocatalysis have many advantages in the context of Green chemistry?
- 2 Calculate the molarity of a solution made by dissolving 3.6g of glucose in enough water to give 200ml of solution.
- 3 Define conformational analysis.
- 4 What are analgesics? Give any two examples.
- 5 How is potassium nitrate prepared?
- 6 What do you mean by natural plant insecticides? Give any two examples^
- 7 Write down the preparation and uses of polyurethane.
- 8 What are essential oils? Give two examples.
- 9 What are adhesives? How are they classified?
- 10 What are the enzymes that are involved in leather industry?

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a What is meant by normality, morality, mass percentage and PPM? Explain briefly.
OR
b How are impure solids purified by fractional crystallization and sublimation methods?
- 12 a Discuss the conformational analysis of ethane and cyclohexane.
OR
b What are antibiotics, tranquillizers and antiseptics? Give suitable example and explain their uses.
- 13 a What are fertilizers? How are they classified? Give any three examples for each type.
OR
b What are insecticides? How are they classified according to mode of action? Give suitable examples for each class.
- 14 a How can you prepare vanilla and monosodium glutamate?
OR
b What are detergents? How are they classified? Give suitable examples. Describe the manufacture of detergents.
- 15 a Discuss the natural and synthetic adhesives and their actions.
OR
b Illustrate the preservation and disinfection of skins.

Cont...

SECTION - C (30 Marks)Answer any **THREE** Questions**ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 a) What is Green chemistry and Nanochemistry? Give any two Green synthesis with example. (3)
b) Discuss how impure liquids are purified by fractional distillation and steam distillation with a neat diagram. (7)
- 17 What are vitamins? How are they classified? Give a brief account on sources, functions, deficiency diseases and structural representations of all vitamins A,B,C and D.
- 18 a) How are ammonium nitrate and urea manufactured on large scale? (6)
b) Write short notes on calcium arsenate, nicotine and allethrin. (4)
- 19 a) Distinguish between thermoplastics and thermosetting plastics. (4)
b) What are perfumes? Give any two examples. Explain the composition and manufacturing process of essential oils. (6)
- 20 a) How is leather manufactured? (5)
b) Write a brief note on rubber based adhesives and silicate adhesives. (5)

Z-Z-Z

END