

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2017
(Fourth Semester)

Branch- **BOTANY**

CHEMISTRY-II

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks!)

Answer **ALL** questions

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

- 1 What are coordination compounds? Give examples.
- 2 What are fertilizers?
- 3 What are essential and non essential aminoacids?
- 4 Write the structures of (i) furan (ii) thiophene (iii) pyridine.
- 5 Define mole-fraction.
- 6 Write note on distillation.
- 7 Define specific and molar conductance.
- 8 Define" the terms 'adsorbent and adsorbate' giving suitable examples.
- 9 Mention the role of any two essential trace elements in biological systems.
- 10 What do you mean by green chemistry and atom economy?

SECTION - B 125 Marks)

Answer **ALL** Questions

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

- 11 a Write the preparation, properties and uses of perdisulphuric acid.
OR
b Explain the biological functions of haemoglobin and chlorophyll.
- 12 a What are proteins? Describe the structure of proteins.
OR
b What are enzymes? Give its characteristics.
- 13 a How a liquid organic compound is purified?
OR
b i) Write a note on fractional distillation.
ii) Explain the basic principles of chromatography.
- 14 a How would you measure the conductance of an aqueous solution?
OR
b Differentiate between physisorption and chemisorption.
- 15 a Describe in detail the concept of heavy metal toxicity.
OR
b Write the twelve principles of green chemistry.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 a Explain Werner's theory of coordination compounds,
b How are the following prepared? Mention its uses.
(i) urea (ii) triple superphosphate
- 17 Narrate the preparation of ethylalcohol from molasses. Mention its uses.
- 18 a Write note on steam distillation.
b Discuss the principle and applications of ion- exchange chromatography.
- 19 a What are buffer solutions? Explain the mechanism of buffer'action. Give any two of its applications,
b State and explain Kohlrash law.
- 20 a Write in detail iron sulphur proteins.
b Draw and explain the structure of myoglobin.