

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION MAY 2019**  
(Second Semester)

Branch - **NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS**

**CHEMISTRY - II**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks (10 x 1 = 10)

The method of purifying benzoic acid is

- |                          |                              |
|--------------------------|------------------------------|
| (i) distillation         | (ii) sublimation             |
| (iii) steam distillation | (iv) fractional distillation |

The absorbent used in column chromatographic method is

- |               |              |
|---------------|--------------|
| (i) alumina   | (ii) benzene |
| (iii) alcohol | (iv) acetone |

Co<sup>+3</sup> ion is present in

- |                 |                              |
|-----------------|------------------------------|
| (i) chlorophyll | (ii) hemoglobin              |
| (iii) myoglobin | (iv) vitamin B <sub>12</sub> |

4 Which one of the following element stimulate the formation of root hairs?

- |                 |              |
|-----------------|--------------|
| (i) Boron       | (ii) Calcium |
| (iii) Manganese | (iv) Zinc    |

Coniine occurs in

- |                    |                    |
|--------------------|--------------------|
| (i) tobacco leaves | (ii) hemlock herb  |
| (iii) pepper       | (iv) cinchona tree |

Ascorbic acid is the chemical name of vitamin

- |         |        |
|---------|--------|
| (i) A   | (ii) B |
| (iii) C | (iv) D |

Reduction occurs at

- |                    |                  |
|--------------------|------------------|
| (i) Anode          | (ii) Cathode     |
| (iii) Electrolysis | (iv) Electrolyte |

The energy associated with a photon is given by the equation

- |              |             |
|--------------|-------------|
| (i) $E=h\nu$ | (ii) $E=ht$ |
| (iii) $E=hc$ | (iv) $E=hc$ |

The substances which pollute the environment is known as

- |               |                 |
|---------------|-----------------|
| (i) pollution | (ii) sewage     |
| (iii) foaming | (iv) pollutants |

10 Smoke is produced from

- |                  |                    |
|------------------|--------------------|
| (i) mines        | (ii) automobiles   |
| (iii) industries | (iv) all the above |

**SECTION - B (25 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** Marks (5 x 5 = 25)

11 a Write short note on fractional distillation.

OR

12 a Explain the biological functions of calcium and iron.

OR

b Write in detail chemistry of sodium benzoate and lactic acid.

13 a What are alkaloids? Give the general properties of alkaloids.

OR

b What are vitamins? Name the diseases caused by the deficiency of vitamin A and vitamin C.

14 a Explain specific conductance and equivalent conductance.

OR

b Explain Lambert's law and Beer's law.

15 a What is meant by air pollution? Explain the classification of air pollution.

OR

b Write note on contamination of foods with chemicals.

**SECTION -C (40 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** Marks (5 x 8 = 40)

16 a Explain the method of purifying a solid organic compound.

OR

b Write briefly principle and applications column chromatography.

17 a Discuss the oxygen transport mechanism of hemoglobin.

OR

b Explain the biological function of chromium, sodium and iodine.

18 a How are terpenoids isolated from plants? Explain Isoprene rule.

OR

b Give the principles of green chemistry.

19 a What is cell constant? How can it be determined?

OR

b What are buffer solutions? Explain the mechanism of buffer action.

20 a What is meant by water pollution? How is it controlled?

OR

b What is meant by soil pollution? Explain the sources of soil pollution.

Z-Z-Z

END