

**UNIVERSITY OF EDUCATION**

**"UEXam" Semester-IV, 2019**

**BS Chemistry Session:2017-21**

**Course Code: CHEM2112**

**Subject: Analytical Chemistry**

**SECTION: I (MCQ's)**

**Time Allowed: 15 Minutes**

**Max. Marks: 12**

NOTE: Encircle the correct/ best answer in each of the followings. Each Question carries 1 mark. Use of remover carries zero mark. Cutting and Overwriting is not allowed.

No. 38

Roll No. (in fig.) \_\_\_\_\_

Roll No. (in words) \_\_\_\_\_

Candidate's Signature. \_\_\_\_\_

Signature of Addl. Supdt. \_\_\_\_\_

**Q1.**

- **Systematic errors always occur in:**
  - (a) One direction
  - (b) Forward order
  - (c) Reverse direction
  - (d) Two direction
- **Any product that has completed all processing stages up to, but not including, final packaging is referred to as**
  - (a) Bulk product
  - (b) finish product
  - (c) core product
  - (d) coated product
- **Operation error is due to:**
  - (a) Method
  - (b) Analytical technique
  - (c) Analysis
  - (d) Analyst
- **Which type of error can be rectified?**
  - (a) Determinate
  - (b) Indeterminate
  - (c) Both
  - (d) None of these
- **Difference between average value and the value obtained in individual determination is called:**
  - (a) Precision
  - (b) Accuracy
  - (c) Deviation
  - (d) Reproducibility
- **Leading zeros are:**
  - (a) Always significant
  - (b) Never significant
  - (c) may or may not be significant
  - (d) None of these
- **Which blood group is considered universal?**
  - (a) O+ive.
  - (b) O-ive
  - (c) A+ive
  - (d) A-ive.
- **Angstrom is equal to:**
  - (a) 0.1 nm
  - (b) 1 nm
  - (c) 10 nm
  - (d) 0.1m
- **$10^{12}$  is known as:**
  - (a) Mega
  - (b) giga
  - (c) Tera
  - (d) peta
- **\_\_\_\_\_ may be used to line bottle caps on sample jars that do not have**
  - (a) Ag Foil
  - (b) Al Foil
  - (c) Au Foil
  - (d) None
- **$10^{-9}$  is known as:**
  - (a) Mega
  - (b) Nano
  - (c) Tera
  - (d) Pico
- **Contamination of a starting material, intermediate product or finished product with another starting material or product during production is**
  - (a) Contamination
  - (b) saturation
  - (c) both of them
  - (d) none of these

relations about mean is \_\_\_\_\_ (c) negative  
(b) 1  
values 6, 3, 5, 1, 11, 10 is \_\_\_\_\_  
(d) all of these.  
(d) 7.5

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**"UExam" Semester-IV, 2019**  
**BS Chemistry Session:2017-21**

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Time Allowed: 75 Minutes.

Max. Marks: 33

**Section II (Short Answer)**

**Q.2- Write short answers of the following.**

**3x5 = 15**

- i. What do you know about the difference between Quality control (QC) and Quality Assurance (QA)?
- ii. Define standard deviation (STD) & relative standard deviation (RSD) with examples?
- iii. What do you know about Instrumented error?
- iv. What is paired-t test?
- v. Differentiate between molarity and molality.

**Section III (Essay Type)**

**Answer the following Questions**

**6x3 = 18**

**Q.3:- Discuss in detail the seven basic rules for quality control?**

**Q.4:- Write a comprehensive note Analysis of variance (ANOVA)?**

**Q.5:- Write a note on Significant Figures?**



**UNIVERSITY OF EDUCATION**  
**"UEXam" Semester-IV, 2019**  
**BS Zoology Session:2017-21**

Course Code: BOTN2112  
Subject: Plant Physiology and Ecology

**SECTION: I (MCQ's)**

**Time Allowed: 15 Minutes**

**Max. Marks: 12**

NOTE: Encircle the correct/ best answer in each of the followings. Each Question carries 1 mark. Use of remover carries zero mark. Cutting and Overwriting is not allowed.

No. 79

Roll No. (in fig.) \_\_\_\_\_

Roll No. (in words) \_\_\_\_\_

Candidate's Signature \_\_\_\_\_

Signature of Addl. Supdt. \_\_\_\_\_

**Q1.**

- Carbon fixation reactions take place in \_\_\_\_\_  
a) Stroma                      b) Thylakoid membranes                      c) Cytosol                      d) Nucleus
- PSII preferentially absorbs red light of wavelengths \_\_\_\_\_  
a) 680                      b) 700                      c) Greater than 680                      d) Greater than 700
- Matric potential is always \_\_\_\_\_  
a) Zero                      b) Negative to zero                      c) Negative                      d) Positive
- In which of the following steps of Calvin cycle, RUBISCO accepts CO<sub>2</sub>?  
a) Regeneration                      b) Reduction                      c) Carboxylation                      d) Oxidation
- Which of the following is not a macronutrient?  
a) Ca                      b) Mg                      c) Nitrogen                      d) Zn
- In \_\_\_\_\_ pathway in plants, water moves exclusively through the cell wall without crossing any membranes.  
a) Apoplast                      b) Transmembrane                      c) Symplast                      d) Diffusion
- Plants that develop root pressure frequently produce liquid droplets on the edges of their leaves, a phenomenon known as \_\_\_\_\_  
a) Hydathodes                      b) Dew drops                      c) Guttation                      d) Transpiration
- In stomata, biological control is exerted by a pair of specialized epidermal cells called \_\_\_\_\_  
a) Cuticle                      b) Mesophyll                      c) Parenchyma                      d) Guard cells
- In alcoholic fermentation, pyruvate is converted into \_\_\_\_\_  
a) Malate                      b) Ethanol                      c) Lactate                      d) Oxaloacetate
- The stepwise oxidation of one molecule of pyruvate in the mitochondrion gives rise to \_\_\_\_\_ NADH.  
a) One                      b) Three                      c) Four                      d) Six
- Among the living components of ecosystem, which of the following is present at the base?  
a) Producers                      b) Primary consumers                      c) Tertiary consumers                      d) Decomposers
- \_\_\_\_\_ are involved in collecting light and transferring the energy to the reaction center complex during photosynthesis.  
a) Flavonoids                      b) Xanthophyll                      c) Anthocyanins                      d) Antenna complex

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**Section II (Short Answer)**

**Q.2- Write short answers of the following.**

**3x5 = 15**

- i. What are the deficiency symptoms of nitrogen?
- ii. How would you define cation exchange capacity?
- iii. How water movement is involved in stomatal regulation?
- iv. What does it mean by water holding capacity of a soil?
- v. Differentiate between water logging and salinity.

**Section III (Essay Type)**

**Answer the following Questions**

**6x3 = 18**

**Q.3:-** Write a comprehensive note on physical and chemical properties of soil.

**Q.4:-** Write a detailed note on steps involved in light reactions of photosynthesis.

**Q.5:-** How energy molecules are generated in Krebs cycle? Write in detail.