11623

B.Sc. VI Semester Degree Examination, May - 2018

CHEMISTRY

Paper - 6.1

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

1) Question paper has **four** sections. All sections are **compulsory**.

2) Answer for **all** sections should be written in the same answer book.

Section - A

(Inorganic, Organic and Physical)

1. Answer any **Ten** of the following: **(10×2=20)**

a) What is Co - Precipitation?

b) What is Glass? give the types of glass.

c) What are the raw materials used for manufacture of cement?

d) What is the principle of electroplating?

e) Name the important minerals of uranium and give its composition.

f) How uniline is prepared from Nitrobenzene.

g) How amino acids are classified? Give examples?

h) Give the classification of enzymes?

i) What is denaturation of protein?

j) Define isoelectric point?

k) Define osmosis and osmotic pressure?

l) State Raoults law?

m) Give types of electrodes.

P.T.O

n) Define ebullioscopic constant.

o) Write Nernst equation of electrode potential?

Section - B

(Inorganic)

2. Answer any **two** of the following : (2×4=8)

a) How Nickel is electroplated?

b) Explain the Manufacture of glass and give its important uses.

c) What is post - precipitation and what are the conditions of precipitation?

3. Answer any **two** of the following : (2×6=12)

a) Explain Extraction of Thorium from its ores?

b) How cement is Manufactured by Dry process?

c) Explain effect of temprature, P^H and complex formation of the solution on the solubility of preeipitates

Section - C

(Organic)

4. Answer any **two** of the following : (2×4=8)

a) Give the synthesis of amino acides by onelonicester method.

b) What are active sites? Explain the mechanism of enzyme action?

c) Give the classification of protein and explain structure of primary and secondary amines?

5. Answer any **two** of the following : (2×6=12)

a) Explain Gabbriels phthalimide reaction and Hotmann's bromide reaction?

b) How peptide is synthesised from carbo, benzoxy method?

c) Give the characteristics features of enzymes and Explain non - compitative inhibition?

Section - D

(Physical)

6. Answer any **two** of the following : (2×4=8)

   a) What is a semipermeable membrane? How artificial semipermeable membrane is prepared?

   b) Explain the Determination of osmotic pressure by Berkly and Hartley method.

   c) Explain potentiometric titration of acids and base.

7. Answer any **two** of the following : (2×6=12)

   a) Explain How Depression in freezing point is Determined by Beckmann's method.

   b) Describe how hydrogen electrode is used for the measurement of PH of aqueous solution, omd what are advantages of this electrode.

   c) Explain ostwald's and walker's method for determination of relative lowering of vapour pressure.

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Paper - 6.2

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Instructions to Candidates:

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SECTION - A

(Inorganic, Industrial Organic and Environmental)

1. Answer any **Ten** of following: **(10×2=20)**

a) Write any two uses of Statistics.

b) Differentiate between the classical and instrumental method.

c) What is meant by Buoyancy error?

d) Define the term replicates.

e) Define the term accuracy and precision.

f) What are waxes? Give example.

g) Explain Keto - end tautomerism with an example.

h) What are antibiotics? Give example.

i) What are Vat dyes? Give example.

j) Give the uses of phenol - formaldehyde resins.

k) Define Biological oxygen demand.

l) Give the significance of Cadmium in water pollution.

m) Explain the principle for the estimation of lime in soil.

P.T.O

n) What is meant by polymer degradation?

o) Describe the method for the estimation of sulphate parameter in water sample by gravimetric method.

Section - B

(Inorganic)

2. Answer any **Two** of the following : (2×4=8)

a) Explain the caliberation of burette.

b) Write the rules for determining the significant figures.

c) The normality of a solution is determined by four separate titrations. The result being 0.4041, 0.4049, 0.4039 and 0.4043. Calculate mean, median, range, standard deviation and relative standard deviation.

3. Answer any **Two** of the following : (2×6=12)

a) Give an account of Grauimetric techniques.

b) Discuss about safety in the analytical laboratory.

c) Explain the differet types of determinate errors.

Section - C

(Industrial Organic)

4. Answer any **Two** of the following : (2×4=8)

a) Define Acid value. How do you determine the Acid value? Give its importance in the analysis of oils and fats.

b) Explain Acylation of enamines.

c) Give the synthesis and uses of

i) Chloramine - T

ii) Sulphanilamide

5. Answer any **Two** of the following : (2×6=12)

a) Explain the manufacture of soap by modern contineous process.

b) What are condensation polymers? Give the synthesis and uses of polyamides with an example.

c) Write the synthesis and chemistry of

i) Crystal violet

ii) Fluorescien.

Section - D

(Environmental)

6. Answer any **Two** of the following : (2×4=8)

a) Explain the method for the estimation of silica in soil.

b) What are the source of water pollution?

c) Describe the method for the estimation of chloride in water sample.

7. Answer any **Two** of the following : (2×6=12)

a) Describe how C.O.D. is determined in water sample.

b) What are industrial effluents? What is their effect on environment?

c) Write a note on plastic recycling.