



PAI-003-1104012

Seat No. \_\_\_\_\_

**M. Sc. (Chemistry) (CBCS) (Sem. IV) Examination**

August - 2020

**CPA-404 : Applied Analytical Chemistry  
(Elective - 1) (New Course)**

**Faculty Code : 003**

**Subject Code : 1104012**

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Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :**
- (1) All questions are compulsory.
  - (2) All questions carry equal marks.

**1** Answer the following : (any **seven**)

- (a) How will you estimate sodium and potassium in blood sample ?
- (b) What is synergetic extraction ? Give its mechanism.
- (c) How will you analyze  $Al_2O_3$  in Bauxite sample ?
- (d) How will you collect blood for Plasma or whole blood analysis ?
- (e) Define Alloy. What are common Alloys ?
- (f) What are food additives ? Classify them.
- (g) Give the examples of API process analytical technology.
- (h) Give the principle of Green Chemistry.
- (i) How will you analyze Serum Albumin and Globulin in blood sample ?

**2** Answer the following : (any **two**)

- (a) discuss microwave enhance chemistry in green analytical chemistry.
- (b) How will you analyze chloride in blood sample ?
- (c) Describe implementation of process analytical technology.

**3** Answer the following :

- (a) Discuss in detail partition theory of solvent extraction.
- (b) Give an account of the applications of solvent extraction in detail.

**OR**

- 3 Answer the following :
- (a) Describe the technique for solvent extraction in detail.
  - (b) How will you estimate serum bicarbonate in blood sample ?  
Discuss in detail.
- 4 Answer the following :
- (a) How will you analyze Copper and Zinc in Brass sample ?
  - (b) Discuss in detail the determination of Benzoic Acid in food sample.
- 5 Answer the following : (any two)
- (a) Give the analytical procedure for determination of  $\text{SiO}_2$ ,  $\text{SO}_3$  and  $\text{CaSO}_4 - 2\text{H}_2\text{O}$  in Gypsum sample.
  - (b) Give the analytical procedure for determination of Serum Calcium in blood sample.
  - (c) How will you determine Saccharin in Jam Jelly and Fruit Juice sample ?
  - (d) How will you analyze CaU and MgU in Dolomite sample ?
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