MBV-003-1104012   Seat No. _____

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

April / May - 2018

Chemistry : CPA - 404

(Applied Analytical Chemistry) (Ele. - 1)

(New Course)

Faculty Code : 003

Subject Code : 1104012

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)   14

(a)   What is solvent extraction ? Give the types of solvent system.

(b)   Give the principle and advantages of solid phase extraction.

(c)   What are food colours ? Classify and give their name and role in food preservation.

(d)   How will you detect linseed oil and rice bran oil in edible vegetable oils ?

(e)   How will you detect cane sugar, starch, cellulose and added glucose in milk ?

(f)   Give the function of blood.

(g)   How will you analyze serum barbiturates in blood sample ?

(h)   Give the parameters of green analytical chemistry.

(i)   Give the examples of API process analytical technology.

(j)   Define ore and alloy. Give the principle of analysis of pyrolusite.

2 Answer the following : (any three) **14**

    (a) How will you analyze copper and zinc in brass sample?

    (b) How will you analyze iron in pyroleucity and aluminium in bauxite ?

    (c) Classify the solvent free sample preparation method in green analytical chemistry.

    (d) Discuss implementation of process analytical technology.

3 Answer the following :

    (a) How will you analyze blood chloride and glucose in blood sample ?   **7**

    (b) Write note on composition of blood.   **7**

OR

    (a) How will you estimate total serum protein in blood sample ?   **7**

    (b) How will you analyze serum calcium and bicarbonate in blood sample ?   **7**

4 Answer the following : (any two) **14**

    (a) Discuss partition theory of solvent extraction.

    (b) Explain solvent extraction by macromolecules in detail.

    (c) Write note on PAT tool boxes.

5 Answer the following : (any two) **14**

    (a) How will you estimate benzoic acid and forbic acid in beverage ?

    (b) How will you determine nitrate and nitrite in food sample ?

    (c) Give green methodology in analytical chemistry.