This question paper contains **3** printed pages]

AI—47—2017

FACULTY OF SCIENCE

M.Sc. (Second Year) (Fourth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2017

(CBCS Pattern)

ANALYTICAL CHEMISTRY

Paper XVII (CH-541/4)

(Industrial Analytical Chemistry)

(Saturday, 11-11-2017)   **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

N.B. :— (*i*)   Attempt *All* questions.

       (*ii*)   *All* questions carry equal marks.

       (*iii*)   Use of log table/calculator is allowed.

1. Solve any *three* of the following :   3×5=15

    (*a*)   Write a note on cracking process.

    (*b*)   Why is it necessary to use pharmacopoeial ?

    (*c*)   What are plastics ? Give their importance.

    (*d*)   Explain Butter fat and animal fat.

    (*e*)   What are enzymes ? Write the uses of vinegar.

2. Solve any *three* of the following :   3×5=15

    (*a*)   Give the characteristics of good paint.

    (*b*)   Write a note on saponification value.

    (*c*)   Explain how to obtain number of fuel.

    (*d*)   Write the physical properties of glass.

    (*e*)   Write uses of oils and fats.

P.T.O.

3. (A) Solve any *one* : 1×8=8

(*a*) Explain the synthetic properties of Rubber and give their application.

(*b*) Explain the process of zink white manufacture.

(B) Solve any *one* : 1×7=7

(*a*) Explain the analysis of cadmium by gravimetric and volumetric process.

(*b*) Give the properties and their uses of synthetic fibres.

4. (A) Solve any *one* : 1×8=8

(*a*) What are oil and fats ? Give the composition of peanut oil and seasame oil.

(*b*) Give the cracking process of fuels.

(B) Solve any *one* : 1×7=7

(*a*) Explain manufacturing of white crystalline sugar two step method.

(*b*) Explain the process of manufacture of vinegar.

5. (A) Choose the *correct* choice : 5×1=5

(*i*) The reagent which is used in saponification value of an oil is :

(*a*) Alc. KOH

(*b*) CCl_4

(*c*) $CHCl_3$

(*d*) $KMnO_4$

(*ii*) The cement is manufacture by :

(*a*) Dry process

(*b*) Wet process

(*c*) Both (*a*) and (*b*)

(*d*) None of the above

(iii) Vinegar contains the following acid :

(a) Citric acid

(b) Acetic acid

(c) Benzoic acid

(d) Malonic acid

(iv) Drugs means :

(a) Dry chemicals

(b) Dry medicine

(c) Dry powder

(d) Dry herbs

(v) Which of the following is an example of synthetic polymer ?

(a) Wood

(b) Silk

(c) Leather

(d) Nylon

(B) Write short notes on (any two) : 2×5=10

(i) Use of chromatography techniques in drug analysis

(ii) Pure culture of distillery

(iii) Anti knocking compounds.