

KJ-424

December-2012

CHEMISTRY (Analytical) 501  
(Industrial Analytical Chemistry)

Time : 3 Hours]

[Max. Marks : 70

1. Answer any two of the following :

- (a) Describe the process of gradient flow injection analysis. 14
- (b) How FIA is useful in determining reaction rate ?
- (c) Explain in brief automatic instruments.
- (d) What is process analytical chemistry ? Compare and discuss off-line, at-line and on-line analysis.

2. Answer any two of the following :

- (a) Discuss the non-instrumental method of analysis of proteins in the food sample. 14
- (b) Describe methods to determine water insoluble vitamins.
- (c) Discuss methods to determine moisture in food sample.
- (d) How can you characterize fats and oils ? Discuss any two methods with principle.

3. Answer any two of the following :

- (a) Explain the importance of UV-Visible Spectrophotometry in pharmaceutical industry. 14
- (b) Write a brief note on importance of HPLC with photodiode array detector in pharmaceutical industry.
- (c) State the category, properties and methods to analyze any one drug.
  - (i) Clonidine hydrochloride
  - (ii) Ciprofloxacin hydrochloride
- (d) State the category, properties and methods to analyze any one drug.
  - (i) Paclitaxel
  - (ii) Prazosin hydrochloride

P.T.O.

4. Answer any two of the following :

- Classify soaps and detergents, explain with suitable examples.
- Explain in detail type of fertilizers.
- Discuss the method for analysis of nitrogen and ammonia in fertilizers.
- Write a brief note on ill effects of fertilizers.

5. Answer in brief : (1 mark each)

- Define dispersion and give its optimum working range in FIA.
- How can you achieve segmentation in continuous flowing stream?
- What do you understand by the term 'carry-over'?
- Name the major constituents in the food sample.
- What does a higher value for iodine value indicate?
- What do you mean by RM value?
- Name the category to which these drugs belong (i) Proguanil (ii) Zidovudine.
- Which vitamins are found in beverages?
- How many coal-tar food colours are permitted in certain food products under food adulteration act?
- Significance of bypass in FIA.
- Give the full form of: (i) AACC (ii) FDA
- Name two anticancer agents.
- Name two organochloride pesticides.
- What is the standard format of food labels for nutrition information?