



RY-003-001647

Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March - 2019

**IC - 602 : Heavy & Fine Chemicals - 2 &
Analytical Chemistry**

Faculty Code : 003

Subject Code : 001647

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

[Total Marks : 70

- Instructions :**
- (1) All the questions are compulsory.
 - (2) Figures to the right indicate maximum marks.
 - (3) Draw labeled diagram wherever necessary.
 - (4) Assume suitable data.
 - (5) Question-1 carries 20 marks.
 - (6) Question-2 & 3 carry 25 marks each.

1 Answer the following questions : **20**

- (1) Triphenyl phosphine is used as _____
- (2) Methylene chloride can be used as paint removing ingredient. True/False?
- (3) Give full form of THF.
- (4) 1,4-dioxane can be produced from diethylene glycol and _____
- (5) Write raw materials used for production of KBr.
- (6) By which process perchloric acid can be synthesized ?
- (7) Sodium bicarbonate is also known as _____
- (8) Washing soda is manufactured via Haber process. True/False?
- (9) Cold fat extraction is also known as _____
- (10) Give one example of anticaking agent.
- (11) Give full form of GC.

- (12) Indicator electrode is made up of _____
- (13) Light source used in polarimeter is _____
- (14) Alumina can be used as stationary phase in chromatography. True/False?
- (15) Partition ratio is also called as _____
- (16) While splitting of the sample, _____ of the sample must not be changed.
- (17) Give full form of FID.
- (18) Which spectroscopy is used to identify functional group present in compound?
- (19) By which detector sample destruction takes place?
- (20) NMR is stands for what?

2 (A) Answer any **three** :

6

- (1) What is R_f value?
- (2) Write a note on Triethyl phosphate.
- (3) Give composition of Fehling solutions.
- (4) Write principle of conductometric titration.
- (5) Discuss sample injection system in chromatography in brief.
- (6) Elaborate the word 'Partition coefficient'.

(B) Answer any **three** :

9

- (1) Give uses of Nujol.
- (2) Discuss types of emulsion.
- (3) Give difference between perfumes and flavors.
- (4) Explain graphical representations of conductometric titration method.
- (5) Write a brief note on sampling methodology.
- (6) Discuss carrier gas selection in chromatography in brief.

- (C) Answer any **two** : **10**
- (1) Discuss manufacturing of chloroform with neat diagram.
 - (2) Explain production of mono sodium glutamate with block diagram.
 - (3) Explain classification of surfactants in detail.
 - (4) Explain UV spectroscopy with neat diagram.
 - (5) Write a detailed note on thermal conductivity detector with diagram.
- 3 (A) Answer any **three** : **6**
- (1) Draw only diagram for manufacturing of acetaldehyde.
 - (2) Write a brief note on DMF.
 - (3) What are intentional food additives?
 - (4) Write principle of Polarimetry analysis.
 - (5) Enlist classifications of chromatography.
 - (6) Write a brief note on stationary phase selection in chromatography.
- (B) Answer any **three** : **9**
- (1) Write a brief note on DMSO.
 - (2) Write industrial uses of food additives.
 - (3) What is hot fat extraction?
 - (4) Discuss principle and working of colorimetry with schematic diagram.
 - (5) Enlist any one basic rule for sampling.
 - (6) Draw only diagram of atomic emission detector.
- (C) Answer any **two** : **10**
- (1) Explain manufacturing of various aminoethanol with neat diagram.
 - (2) Discuss sampling of liquid in detail.
 - (3) Explain colorimetry analysis with diagram.
 - (4) Explain IR spectroscopy with diagram.
 - (5) Discuss industrial applications of essential oils.